THE BUILDER
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Church of the Strahoff Monastery, Prague.

(*See page* 464.)

MEETINGS

SATURDAY, *September* 20.

Building Surveyors' Association. Quarterly Meeting. At the N.A.L.G.O. Offices, 24, Abingdon-street, S.W.1. 3 p.m.

FRIDAY AND SATURDAY, *September* 26 *and* 27.

Institution of Municipal and County Engineers. Institution Meeting at Southampton. 10 a.m.

FRIDAY-SUNDAY, *September* 26-28.

National Smoke Abatement Society. Annual Conference. At Leicester.

FRIDAY-SUNDAY, *October* 3-5.

Town Planning Institute. Annual Country Meeting. At Leicester.

THURSDAY, *October* 9.

Institution of Welding Engineers. Mr. J. Ryder on "The Training of Operatives in the Welding and Cutting Industries." At the Engineers' Club, Manchester.

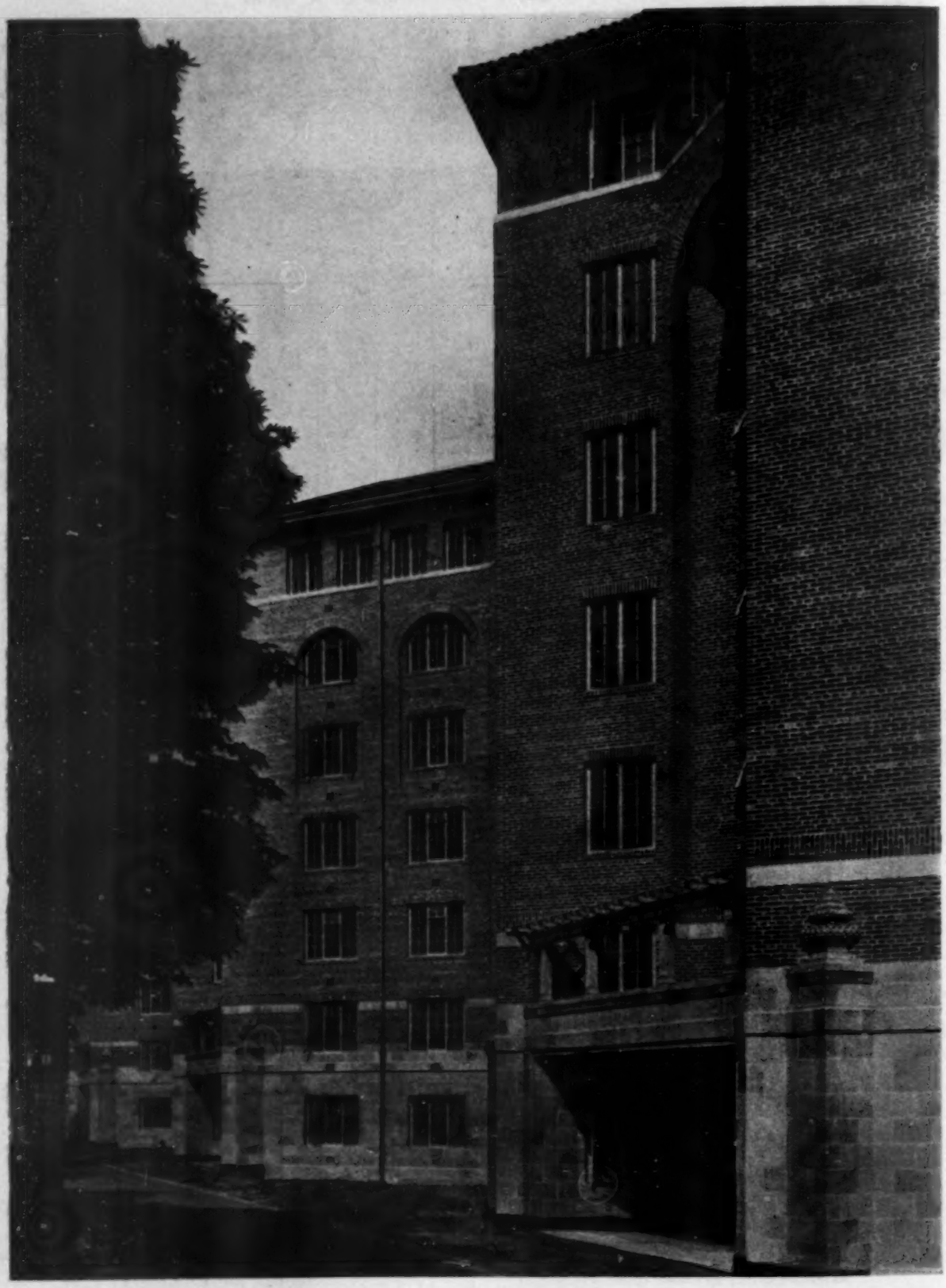
FRIDAY, *October* 10.

Royal Sanitary Institute. Discussion on "River Pollution," to be opened by Alderman A. R. Atkey, J.P. At the Guildhall, Nottingham. 4.30 p.m.

WEDNESDAY-THURSDAY, *October* 22-23.

Institute of Fuel. Annual Conference. At the Institution of Electrical Engineers, Savoy-place, Victoria Embankment, W.C.2. Annual Dinner. At the Connaught Rooms. Wednesday, 6.45 p.m.

(*For Building Exhibition Fixtures see page* 484.)



"Cropthorne Court," Maida Vale: Detail of Frontage.

Sir Giles Scott, R.A., F.R.I.B.A., Architect.

THE GUILDFORD CONDITIONS

THE Guildford Cathedral Competition conditions, which have been published in these pages and in various other journals, are not entirely without precedent; but they are sufficiently unusual to have excited a good deal of comment, including the usual adverse criticisms which such events invariably call forth. This is one of the case where, as a project of national importance, paid out of funds which the public will subscribe, and aiming at a permanent monument to this remarkable age of ours, the best means to the best result must be diligently sought; and we cannot help feeling that the conditions do show that the promoters have this high end in view, however much the means they have chosen are open to criticism.

The competition system, as understood and practised to-day, is one in which a number of objections have to remain unanswered to balance a great deal of good which can be satisfied in no other known way. We are continually being reminded that a great open competition which draws entries from all and sundry, involves a vast amount of wasted energy; and to those who feel that energy is the only real form of wealth, such an objection is a very serious one. The only point which makes this objection anything but final and unanswerable is the feeling that this energy which seems to run to waste is not entirely wasted at all, adding as it must do to the sum of experience upon which the architect builds his reputation and continues his self-education. The great advantage of the system is that it is the gate upon which the unknown genius may knock with some hope of entry, though there are some who suggest that it is an entry for the paper genius who may be quite unfitted to direct building.

So it becomes rather a matter of reducing the labour of the competitors to a minimum and putting a limit upon the appeal of mere draughtsmanship and academic design, to open the door of opportunity to as many as possible. The means that have been sometimes chosen to achieve this are, first, to run a preliminary sketch competition to draw ideas; and second, to impose a form of draughtsmanship which demands facts instead of fancies. The real grind of developing a scheme into the form of fact is then exercised by a few selected competitors, who are paid for their labour, to some extent, while the labour which is wasted and unpaid remains comparatively trivial. That seems a sensible way of limiting the objections which all but a perfect system must contain.

The Guildford authorities have followed this line to a great extent, and so far we believe that opinion will be unanimously with them. The form in which this line has been followed is, however, a little unusual. Architects are invited to send in examples of ecclesiastical work which they have executed, or, alternatively, to submit a design for a cathedral, and no schedule of conditions is given to guide competitors who have to choose the latter method other than a hint that it should be a Gothic design, or so we read the note. The competitor is left to make up his mind whether he sends in his dream cathedral, or whether he keeps in his mind the fact that funds will be limited, and that the cheaper scheme is more likely to mature than one which is beyond the pocket of this and the next generation to pay for. His name is also before the assessors, and it has to stand along with others which are household words through the land. He cannot resist the thought that even a professional assessor can hardly fail to be biased towards the names of men who have done great things and who are not likely to fail in the execution of a fresh one. These are not our own criticisms, but the gist of ideas which some intending competitors, some of them young men, have expressed to us in conversation upon this great project. Being given with conviction, we feel that they merit sympathetic examination.

We have something to say to those who share these views, and it relates to another less obvious defect which the average open competition entails. The framing of conditions for a project means, in fact, that the assessor has to design in draft a scheme which meets the case. It may not be the only scheme possible, but such a scheme must determine within certain broad lines the limitations under which competitors must work. Now, we suggest that this tends to preclude some, at any rate, of the fresh ideas which might be expected from an open range of competitors, and to some extent, possibly largely theoretical, it defeats one of the chief aims of the competition. We cannot help feeling that an assessor who, as in this case, rules out the set of conditions usual in such cases, and calls simply for ideas, is making something of a personal sacrifice for the good of the job. We think that those who grumble at this procedure are a little unjust to the promoters, and have forgotten that the chief aim of the project is to produce in good time the finest cathedral in the South of England.

On the other hand, we have some sympathy with those young men who are inclined to feel that entry is a forlorn hope, largely because of the national "safety first" characteristic which leans subconsciously towards tried experience. We do not ourselves see how any architect who has executed a great and successful piece of church work can be excluded from the final competition. Equally we do not see why he should, or why he should be called upon to justify himself hurriedly upon paper. We may take it for granted that the experienced men are already half-way into the final competition, and that the places remaining open for the unknown men are, therefore, proportionately limited. We think that those who are quarrelling with these obvious facts are quarrelling with life in general rather than with the Guildford Competition.

But we do think that even at this late hour the promoters might make some little gesture to reassure those who may feel, though without complete justification, that the selection of the final competitors is already partly cut and dried, and that this preliminary competition is merely a formal concession to popular clamour. We might suggest that the number of final selections should be divided into two parts, allotting so many to be selected from the names of those who have executed church work, leaving an equal number of places open to those who submit anonymously their designs for a cathedral. In such a way, the man who has already proved himself would remain available without the necessity for possibly losing his chance by a temporary loss of form on paper; while the unknown man would stand an equal chance of competing in the final test. It is somewhat late in the day to think of these matters, and possibly too late; but we feel that the authorities will be anxious to avoid any chance of missing hidden genius, as well as of leaving the slightest cause for discontent.

Of one thing we may be certain; that they have one great aim before them all the time, which is that the best talent shall be brought to bear upon this project, which is one of the events of the century in the religious life of the country. And when we can feel that this has been in mind, and that the matter has been thought round from every aspect, we can bury all personal prejudice and look for the best to come forth.

Whatever the outcome of this particular matter, there is little doubt that the whole question of competition regulation needs reviewing and amending from time to time to meet changing conditions and objections which only rise to the surface as the result of practical experience. We propose shortly to make this a subject for our "Debate" column, and we hope our readers will add their views to those of the official parties of the debate, and so contribute to make this feature a real means of discovering fresh view points and the trend of opinion.

NOTES

The Calton Site, Edinburgh.

THERE can be no mistake as to the determined opposition which has been established against the Office of Works proposals for the Calton Hill buildings. A Scottish National Committee has been formed to deal with the situation, and its first meeting was held on the 12th inst., when the following resolution was passed, having been moved by Lord Rosebery and seconded by Sir Patrick Ford, M.P.: "That this committee unanimously opposes the adoption of any scheme for the utilisation of the Calton Hill site upon the lines indicated in the drawings published by the Press, holding that they indicate complete failure to appreciate the qualities and possibilities of this admittedly unique site, and offer a design unworthy of it; that the official explanation of the action of the Office of Works in declining to allow these designs to be seen by the public, and withholding from the public the adverse reports of the Royal Fine Art Commission for Scotland on their designs, is inconclusive and unconvincing; that the plea now put forward of inadequate financial resources can afford no excuse for the spoliation of a natural asset of priceless and permanent value, and is inconsistent with earlier official assurances given to the public; that any attempt to ignore the advice of the Royal Fine Art Commission for Scotland should be resisted; and that preferably to anything unworthy being erected on the site, it should be left clear and laid out as an open space in such a way as to restore the Calton Hill to its position as a magnificent natural feature of the Capital city."

The Issue.

SIR LIONEL EARLE, whilst disclaiming any intention on the part of the Office of Works to impose arbitrarily an official design without adequately safeguarding the merits of the site, expresses the determination of the Office of Works to build the Government offices themselves. Here is the crux of the matter. The citizens of Edinburgh are to be congratulated on their action.

The Use of the Architect.

Is it not possible to persuade local authorities of the value of an architect's services in the carrying out of a housing scheme? Would a representation from the Royal Institute of British Architects influence a local authority to give the design and oversight of 80 houses at a cost of some £38,000 into the hands of a competent architect instead of appointing sanitary inspectors to supervise the work? Such appointments have actually been made by an Urban District Council. A member of the Council advised that an architect should be advertised for and a competent clerk of works appointed. We cannot, therefore, pass a wholesale condemnation on the Council for their short-sighted policy. It is a pity that our local councils do not realise the value to their localities of well-designed, pleasing houses and that the fees paid to a competent architect are a small price to pay for the added amenity which such an outlay can produce. There have sprung up in various parts of the country some cottage buildings which are a pleasure to see, and it should be a great objective for all of us to add to the number. Until our authorities will realise that there is a real value in the production of simply-designed and well-proportioned buildings, they will think of nothing but mere bricks and mortar.

Welbeck Abbey.

NOWADAYS we can never be surprised when we hear of a large country mansion being closed, for it is a common result of heavy taxation of large estates. Yet the news that the Duke of Portland's heir—the Marquis of Titchfield, M.P.—is to erect a new residence in the grounds of the Great Park, makes the future of Welbeck Abbey most uncertain. The Duke has stated before that he doubted if his successor would be able to reside at the Abbey. If this is to happen when the Marquis succeeds to the Dukedom, it will be a heavy blow to the people of Nottinghamshire, who have highly esteemed the successive Dukes and Duchesses of Portland, and also to thousands of people the whole world over who have seen the unique works at the Abbey. Visitors to the Dukeries always grow enthusiastic over the splendours of Welbeck Abbey, the underground suite of which must be unrivalled in any part of the world. Royalty and statesmen have been entertained in the huge underground ballroom, which was built by the fifth Duke of Portland, who, it is said, spent £100,000 a year on wages for eighteen years. If, however, Welbeck Abbey is eventually closed, it will only be suffering the fate of other great houses in the Dukeries. Clumber House is now closed and its treasures taken away, and only part of Thoresby House has been inhabited since the death of Earl Manvers.

Statue in the Loratenska, Namesji, Prague.
(*See page* 464.)

Santo Domingo Cathedral: Principal Entrance.
(*See page* 462.)

Old Buildings for Public Schools.

A CORRESPONDENT writes: "Since the war several historic mansions have been converted into Public Schools. One of these is Bryanston, a magnificent mansion situated close to the market town of Blandford in Dorset. Another is Stowe, which was converted by Mr. Clough Williams-Ellis. Experience, however, is showing the governors of some of these converted schools that the cost of maintenance is far higher than was originally

"Cropthorne Court," Maida Vale: A Corridor.
SIR GILES SCOTT, R.A., F.R.I.B.A., Architect.

anticipated. At first sight there was much to be said for utilising noble buildings, planned by the architects of the past, but stucco crumbles rapidly and some stone weathers badly. At least one head master of a post-war public school is now bitterly lamenting that repairs to the fabric absorb each year so much of the income. There is, in fact, much to be said for the policies pursued by Eastbourne College and other schools where far-sighted governors are utilising the skill of modern architects and putting up new buildings, instead of trying to adapt old mansions to purposes for which they were not originally intended."

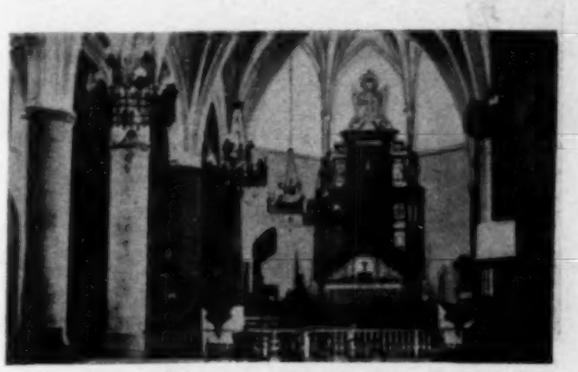
A Threat to Irish Scenery. A CORRESPONDENT writes: "There is a grave danger that the Lakes of Killarney may be irretrievably spoilt by building development. Much of the ground is already laid out for building plots, and unless they are bought up by some benefactor who wishes to preserve these gems of Irish scenery unimpaired, or by a local authority, bungalows and small villas, like those which now disfigure the outskirts of Cork, are, it seems, inevitable. It is unlikely that any local authority will be able to find the money to buy the land, for Ireland at the present time is suffering badly from the lack of ready cash."

Garden Cities. THE history of garden cities provides a peculiar paradox. The all-round success of Letchworth and Welwyn garden cities would seem to be firmly founded, yet they remain the sole examples in England of the true garden city. A writer in the current *Architecture* puts forward a suggestion that since the garden city movement is a most efficient method of checking the scattered development that is going on up and down England, the foundation by our major city councils of series of garden cities outside their boundaries would (*a*) lead to orderly development; and (*b*) provide opportunities for employing large amounts of unskilled and skilled labour through Government Unemployment Grants on work which, unlike many schemes being carried out to-day, would eventually give a return upon capital. Since the article in question was written, details have been published of the Manchester Corporation's intention to establish a garden city on its Wythenshawe estate. Other of our great corporations might well look into the matter. *Architecture* contains representative illustrations of, and articles upon, Letchworth and Welwyn, and examples of domestic work at Hampstead Garden Suburb are also given.

Stonehenge. THOSE who have this summer closely examined Stonehenge, which is now under the care of the Office of Works, have arrived at certain definite conclusions. There are two types of stone used. The Sarsen stones were probably quarried locally, but the other stone must have been carried from South Wales. Stone tools must have been used by the primitive people responsible, for the date now given for the erection of Stonehenge is about 1700 B.C. Axes with a cutting edge, hammer axes and hammer stones, all made of flints, and used in the hand, served to shape these stones. Probably deer horns were employed to quarry out the chalk. It is thought that the stones were dragged on tree trunks by hundreds of men, who would be harnessed with ropes of twisted hide. It is, however, of interest to note that over 3,000 years ago the method of construction known as the "toggle" was used. Some of the stones are keyed together by a careful arrangement of mortise, tenon and toggle, and these have survived the centuries. It must have been a difficult task to make the mortise holes, when only other stones, and no metal instruments, were available. During recent years far more information has been obtained about Stonehenge. It is now agreed that there seems to be no valid reason for supposing that it was erected by the Druids, but was built by a race living in a far earlier epoch than any Druidism of which record remains.

International Standards. A CORRESPONDENT writes to us as follows:—"We constantly read in the newspapers that foreign materials are being used on extensive housing schemes, which are—in many cases—controlled by urban authorities. Usually there is a storm of protest, sometimes instigated by two or three councillors. The contractors argue that they cannot erect houses within the Ministry of Health's price limit if they do not quote for foreign cheap tiles, and English manufacturers reply that their prices cannot be reduced because of the present-day high cost of living and the wages they have to pay. It seems as though the time has come for an international standard of living and wages. There are a hundred and one difficulties to be surmounted, yet this would appear to be the only satisfactory way of meeting the problem."

Commons and Footpaths Preservation. THERE can be no doubt as to the great value of the work done by the Commons, Open Spaces and Footpaths Preservation Society, for the abuse of so-called rights over commons is well known to many of us. As an instance of the need for protective action we may name the Aber Falls in North Wales. This is a charming spot, as those who have seen it will know. But in about 1928 it appears that the footpaths which go below and above the falls were only made accessible to the public on payment of a fee. However, legal proceedings resulted in a declaration that there is a public right of way for foot passengers on both the upper and the lower footpaths and the defendant had to pay for costs in the case. An even more notable case was that of the enclosures of common land at Goppa Mountain in Glamorganshire. The Swansea Rural District Council took proceedings against the defendant, who had been adding to his encroachments on the common lands for some twenty years and was compelled to remove his enclosures.



Santo Domingo Cathedral: Interior.
(*See page* 462.)

GENERAL NEWS

The Liverpool to Manchester Railway.

The centenary of the Liverpool to Manchester Railway occurs on Monday, and is being marked by celebrations in both cities, which began on Wednesday.

Salford's New Town Hall.

The special committee appointed at the last Council meeting to explore the various channels for providing adequate municipal accommodation in Salford has decided that an architect be invited to submit plans for a new town hall on the Crescent site, Leaf-square, and in Peel Park, for the committee's consideration.

Park Land for Dorking.

The Nower, 60 acres of hilly park land and one of Surrey's beauty spots, has been given to the town of Dorking by Lieutenant-Colonel R. W. Barclay. The announcement of the gift was made at a Dorking Council meeting recently. Well wooded, it is a projection of the North Downs, from which panoramic views of Surrey may be obtained.

"The Republic of Siena."

Under this title, Mr. Selwyn Brinton, M.A., F.R.S.A., has brought out a third edition of Part II. of the story of the Renaissance in Italian Art, with analysis of artists and their works in sculpture and painting. With a foreword by Senator Corrado Ricci, it tells the story of Italian art in the Republic of Siena, that "ancient city of the Virgin." The author outlines her political history—with which the story of her painting is so intimately entwined that neither can be really grasped apart—from Monte Aperto to the fall of the old republic. It is published by Messrs. G. Bell and Sons, Ltd., at 5s.

Proposed Almshouses, Chiswick.

The Chiswick Parochial Charities Trustees have accepted the tender of Messrs. F. G. Cressey, Ltd., of Brackley-road, Chiswick, for the erection of six almshouses on land adjacent to Burlington-lane. This scheme has been held up since 1915, when the hon. architect, Mr. Maurice B. Adams, F.R.I.B.A., showed his design at the Royal Academy exhibition. Mr. Adams, who was a member of the trustees' Board for over a quarter of a century, recently retired from the Board, but has promised personally to supervise the erection of the almshouses. The land was generously given by the Duke of Devonshire, and the bills of quantities were gratuitously prepared by Mr. George Spencer, J.P.

SANTO DOMINGO

Santo Domingo, which was recently devastated by one of the fiercest hurricanes on record, is, or was, a charming old Spanish colonial city, with a number of interesting churches and convents dating from the first half of the sixteenth century. The cathedral, in particular, is worthy of note as being, in all probability, the oldest church in America, and one of the very few of the colonial period erected in the Gothic style. It was begun in 1514, and substantially completed about thirty years later. Like most of the other old churches in Santo Domingo, the cathedral is very massively constructed, and it is undoubtedly due to this fact that it owes its immunity during the recent hurricane. The exterior is severely plain, the decoration being confined to the principal entrance, which is a pleasing example of the Spanish Renaissance. The flanking niches have unfortunately lost their figures, but otherwise the whole is in an excellent state of preservation. The interior is very impressive, with a row of lofty round columns on either side supporting pointed arches. The building terminates in an apsidal sanctuary lighted by narrow pointed windows. There is no clerestory. The church is covered with stone vaulting of a late Gothic type. Much of the old furniture remains, including the retable of the high altar and the amboes and pulpit of iron. The sacristy contains a rich store of ancient plate and vestments dating from early colonial times. Columbus was buried in the cathedral, and it is probable that his bones still repose there. There are several other sixteenth-century churches in the city, one of the best being that attached to the Dominican convent.

A Baroque Pulpit in Central Europe.

(*See page* 464.)

COMPETITION NEWS

Royal National Eisteddfod of Wales.

Following are the awards in the Architecture Section of the Royal National Eisteddfod of Wales, held at Llanelly recently:—

I. Design for "A Town Hall"; 1, F. Keith Aitken, prize £50; 2, J. W. Bishop, very highly commended.

II. Design for "An Omnibus Station: 1, D. D. Harrison, prize £25; 2, W. Sirrell, very highly commended.

III. Design for "Workmen's Cottages: 1, S. G. Roberts, prize £25; 2, L. F. Richards, very highly commended.

IV. Measured Drawings prizes: 1, D. M. Jones, £15 15s.; 2, L. F. Richards, £5 5s.

COMPETITIONS OPEN.

	Particulars published in "Builder."	Sending in date.
New Grammar School at Ramsey, for the Isle of Man E.A. Mr. T. Talisin Rees, F.R.I.B.A., assessor. Conditions, before July 1, from Mr. T. R. Lewis, Education Office, Douglas, I.-O.-M. Dep. £1 1s.	June 13	Sept. 30
Lay-out of Sea-front, Bangor (County Down, Ireland), for B.C. Premiums £150 and £50. Prof. L. P. Abercrombie, F.R.I.B.A., assessor	May 9	Oct. 1.
Two Infant Welfare Centres (a) Perry Bar, (b) Billesley, for Birmingham City Council. Open only to Birmingham architects. Premium, £100 for each job. Assessor, Mr. A. T. Butler, F.R.I.B.A. Conditions from Mr. H. H. Humphries, City E. and S., Council House, Birmingham. Dep. £1 1s. each centre	July 25	Oct. 20
Proposed Cathedral, Diocese of Guildford. Architects to submit for examination portfolios of drawings, photographs of their work to the Ven. Archdeacon of Surrey, Lloyds Bank-chambers, Guildford, before November 30	July 25	Nov. 30
Royal Society of Arts: £525 in prizes for new designs and uses for "Beatl." In three sections. Messrs. A. C. Bossom, Stanley Hamp and Prof. A. E. Richardson, FF.R.I.B.A., assessors. Conditions from Secretary, Industrial Designs (Beatl) Competition, Royal Society of Arts, Adelphi, W.C.2.	Aug. 22	Nov. 30
Incorporated Association of Architects and Surveyors: Competition for model petrol-filling and service depot. Prizes of 50 gns., 20 gns. and 10 gns., besides prizes for laymen's suggestions. Messrs. A. W. S. Cross, E. H. Fryer and W. Groves, assessors	Aug. 22	Dec. 31
Site Development, Liverpool, for General Building Syndicate, Ltd. Premiums of £250, £100 and £50. Conditions from Secretary, 16, St. Martin's-lane, W.C.2	May 16	—
Public elementary school for Swinton and Pendlebury E.C. Conditions from R. Breckell, acting secretary, Council Offices, Swinton, Manchester. For architects within 15 miles of Manchester	July 26	—
Council School, 800 children, in Clarence-street, for Burton-on-Trent E.A. Mr. H. T. Buckland, F.R.I.B.A., assessor. Premiums, £150, £100, £50. Conditions from Mr. L. E. Burgess, Education Offices. Dep. £1.	Aug. 22	—

"ARCHITECTURE."

"SCULPTURE."

Mural Paintings at the Imperial Secretariat, New Delhi : Lunettes by Students of the Bombay School of Art.

(*See page* 477.)

PRAGUE.—II.

By F. E. BENNETT, A.R.I.B.A.

A CITY OF BAROQUE CHURCHES.

The powerful influence of the Jesuits has stamped itself indelibly on Prague. The success of Jesuit efforts to revive the strength of the Roman Church once led to a period of great development in this inland capital, chosen by them as a centre for their wide activities. They erected numerous and costly church buildings, generous in proportions and designed in the then "modern" style of the baroque.

The St. Nicholas Church, of all the baroque buildings in Prague, stands out most prominently with the unique combination of a dome and a tower of equal height rising up from adjacent bays of the plan. From any position the two are always seen close together, the one acting as a foil to the other.

The west façade is equally unusual. On a width of a hundred feet and on a greater height, the frontage is treated with a rich variety of renaissance decorative motives. To gain added richness, the architects—the brothers Dientzenhofer—set themselves the task of working out the design on a wall curved in a manner apparently the most elaborate of which they could think, like this:—

Plan of West End Wall of St. Nicholas Church.

The Church of the Loreto stands in a more sheltered position high up on the Rhadchine. This is a gem, and retains more of its original atmosphere than other examples of the baroque in Prague. The church itself is tiny, but a cloistered courtyard, giving on to a series of side chapels, precedes it, showing a façade on the street front of a single story, with Roman Doric order set on an ample plinth. Breaks in this elevation are frequent and carried down through the plinth, and delightful little figures in lively attitudes balance themselves without affectation at various points of interest. The tower, finished with the more Russian form of cupola, completes the composition. The interior of the little church on the far side of the cloisters shows the very best which the baroque manner can achieve. Lively curves, well balanced one against another, with ample points of support, twist over the vaults, the pediments, and the windows. Unrestrained, but always avoiding the grotesque, they are well within the grasp of the designer. Real and imitation marbles decorate the wall surfaces, and brightly coloured scenes from the Bible fill in the spaces of the ceiling. Cherubs and angels, wood carved, with gilded wings and limbs of a realistic pink, hover above. Ripples of laughter seem to run around the walls; all expresses a happy religion and the indulgence of a lively fancy, seeking not to impress others but to enjoy itself.

Here and there in the streets one finds the smaller monuments of a happy religion. The little group in the Loratinska Namesji (p. 460) is one of many which give charm and quality to streets which might otherwise be commonplace.

The Strahoff Monastery sits on a minor

Church of the Loreto.

eminence of its own, echoing the mass of the Rhadchine. With a church, twin towers, three-storied cloisters, and other monastic buildings it is a thoroughbred of its class. From the purer standpoint there are numerous faults, and liberties are frequently taken with well-established motifs, but for decision of handling, strong composition, and a fine sense of scale this building has few equals.

The last serves to illustrate some of the principles which influence the style of the baroque. The plan of this entrance is neither forced, nor again is it sacrificed for the sake of effect. The favourite elliptical arch is used in preference to the semi-circular for a reason entirely sound. It allows sufficient clearance under the windows above, or, conversely, it gains height for the imposts below. The ornaments of the elevation are obtained economically, the only stonework being the structural parts and the big projections, for the wall covering and all the decorations are stucco and appropriately kept as flat and as light as possible. No attempt is made to show imitation jointing where no stonework exists.

It would be of little value in these days of

A Doorway to the Strahoff Monastery.

Chapel of St. George on the Rhadchine.

advanced ideas on architectural design to offer an analysis of this so disdainfully-treated baroque style, but one thing may be said of it which can scarcely be claimed for modernism—that it is eminently ingenious.

The buildings of this style were not intended for the same intellectual analysis as, say, the Cancelleria Palace. What the Church inspired and what the architects sought to gain was an emotional appeal, and this is the ground on which we should criticise their buildings to-day. Judging from a different standpoint, the critic is apt to allow himself to be nauseated by an exuberance of detail, and to overlook the fine qualities of proportion and scale, the sense of grandeur, and the extraordinary vitality which these buildings possess. The baroque makes a great deal possible which purer styles do not allow, and in its appeal satisfies those who are not so concerned with the more intellectual reasons of architectural design.

(To be continued.)

Portion of West Entrance, the Strahoff Monastery.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Luton Town Hall Competition.

SIR,—As a competitor, fully acquainted with and alive to the difficulties that beset one, upon seeing the design placed second in this competition it only requires a cursory inspection of the drawings to detect two (at least) errors of design, which in themselves were quite sufficient to put the design out of court. I refer only to two elementary principles of design :—(1) The position of the Council Chamber suite could hardly have been found a more public and noisy position. (2) The Assembly Hall is placed upon the first floor, entirely inconsistent with common sense, apart from the fact that competitors were asked to adhere to the London County Council conditions affecting such buildings. The design far from complies, and could and would not receive the Council's sanction. Were there no better designs to place second? The selected design undoubtedly secured its place by reason of its simple, straightforward cleverness and perfect solution of the problem set.—A COMPETITOR.

[It should be pointed out that although the architects of the second premiated design place their Council Chamber on the George-street front, they mark on their plan "soundproof double windows" to this room.—ED.]

The Calton Site.

SIR,—The latest development in this new national question should not be overlooked by the profession. Sir Lionel Earle's letter to the Duke of Athol is instructive for various reasons.

It would appear that the third design for the buildings on this site is now in the hands of the Scottish Fine Art Commissioners. Those of us who saw the first two designs are unanimous in agreeing that these two designs showed a total disregard to the special requirements of this noble site. As it is now highly probable that the Government will be compelled by the pressure of public opinion to make these buildings the subject of an open competition, it would be injudicious to state the reasons which have led to the failure of the Office of Works to satisfy the Fine Art Commission. This whole business has been handled in such a stupid, secretive and muddled manner that we can only hope that the conditions which make such a waste of public money possible will never be tolerated again. It would be futile to repeat the contradictory statements which have emanated from Mr. Lansbury and his department, but surely they are now convinced that they need not "dream of proceeding with the Office of Works' design in face of really serious opposition." Surely the opposition is serious enough to satisfy the most ardent supporters of official architecture that they are beaten.

At the request of the Edinburgh Town Council the third scheme is a variation of the first. A request such as this shows how completely the Town Council have failed to grasp the main factors of the problem, but we need not worry, for neither the approval of the Town Council nor the threats of the Official Departments will make it possible for any scheme to be carried out which does not only meet with the approval of the Fine Art Commission, but all competent judges.

No question of economy or departmental necessity could ever justify the mishandling of this magnificent site. It is to be hoped that the Department involved in this stupid muddle has overreached itself for the last time. This is not only "an important building," but a unique site and a unique opportunity.

Edinburgh. WILLIAM DAVIDSON.

The Strahoff Monastery, Prague.

Church of the Strahoff Monastery, Prague : Portion of Interior.

(See page 464.)

NEGLECTED ASPECTS OF HOUSING

A plea for simpler standards in housing was advanced by Sir John Mann in a paper on "Some Neglected Aspects of the Housing Problem" in the Economics and Statistics Section of the Congress of the British Association.

The majority of slum-dwellers, he said, were decent, hard-working people, doing their best to be clean and orderly, but too often with little chance of success. They responded wonderfully to improved conditions. Only a relatively trifling proportion of those who could afford the rents, plus expenses of working at a distance from their homes, succeeded in becoming tenants of new subsidised houses with their admirable amenities. The very large number of decent people who were fated to remain in the slums, along with the much smaller number of those who were less deserving, were the crux of the housing problem. The nation could not afford to rehouse them all, and it was suggested that attempts should be made to meet such cases partly by more active reconditioning on the one hand, and on the other by a distinctly new departure in housing policy—the provision of new types of houses of simpler standard, to come "midway" between the unregenerate slums and the well-equipped modern houses, to act as stepping-stones from the slums. The present standard for new houses, most admirable in itself, was beyond what the nation could afford at present, and even when reduced by subsidy was still beyond the reach of the low-paid workers. It was recognised that a reduction in standard would be unpopular, but it would hasten building, and its drawbacks would be minimised, if not fully compensated, by improved methods of management by owners and better supervision by local authorities.

He was of the opinion that much might be done by reconditioning and by "making-down," converting large houses into several small ones, but mainly by compelling the owners of existing slums to put them in order where possible, and thereafter seeing that they were kept in good order.

He expressed the view that subsidies were not justified for new houses of the present high standard, and should be confined to encouraging experiments in various types of simpler dwellings. A very special type was required for the struggling poor and even for the lowest class of tenants, the "submerged," who were weak and characterless and rejected by all self-respecting landlords. If ever a subsidy was justified it should be for the provision of housing for this class—if on no other grounds than the savings in cost of police and public health administration. Experiments which had been made in this direction had proved that the idea was by no means Utopian.

ILLUSTRATIONS

PLATES.

Liverpool Roman Catholic Cathedral.

The area covered by this projected new cathedral is 216,500 sq. ft., as compared with the 59,700 sq. ft. of St. Paul's, London. Its length is 680 ft. as compared with the 510 ft. of St. Paul's, while the internal diameter of its dome is 150 ft. as against the 109 ft. of St. Paul's. The plan is a Latin cross, but with shorter arms than usual to the cross. It is a five-aisled cathedral, with the two inner aisles piercing the dome piers, as at St. Paul's, but leaving those piers with ample area of support for the dome above. The two further aisles pass outside the dome piers.

Messrs. Gamage's New Store Building.

This new building has just been completed in Oxford-street, near the Marble Arch, for Messrs. Gamages (West End), Ltd. The sub-basement, ground and first floors and centre portion of the second, third, fourth and fifth floors are occupied by the firm, and the two wings above the first floor consist of flats.

Messrs. Higgs and Hill, Ltd., are the general contractors, and following is a list of the sub-contractors :—Dorman, Long and Co., Ltd., steelwork; South Western Stone Co., Ltd., stonework; Rippers, Ltd., joinery; G. N. Haden and Sons, Ltd., heating; Kheocrete Pumice Stone Slab Co., Ltd., partition slabs; A. Goldstein and Co., glazing; Portland Cement Selling and Distributing Co., Ltd., "Holborough" cement; F. Braby and Co., Ltd., "Eclipse" steel staircases; Plastering, Ltd., plastering; Lamson Pneumatic Tube Co., cash and despatch tube; Carter and Co. (London), Ltd., glazed tiling; J. Starkie Gardner, Ltd., Morris Singer Co., Gaze and Son, Birmingham Guild, decorative metalwork; Fenning and Co., Ltd., polished granite work; Art Pavements and Decorations, Ltd., H. T. Jenkins and Son, Ltd., Whitehead and Son, marble work; E. Pollard and Co., Ltd., Harris and Sheldon, Ltd., Geo. Parnall, Fredk. Sage, store fittings; Morris-Singer Co., iron balustrading and metal windows; Higgins and Griffiths, Ltd., electrical installations; Shaw's Glazed Brick Co., Ltd., interior faience; Matthew Hall and Co., Ltd., sanitary work; G. Tucker and Son, Ltd., "Multiruf" facing bricks; Mather and Platt, Ltd., sprinklers, extinguishers, fireproof doors, and shutters; Crittall Manufacturing Co., Ltd., windows; London Brick Co. and Forders, Ltd., "Phorpres" bricks; Express Lift Co., Ltd., lifts (24); Caxton Floors, Ltd., floors; Domolac Co., cellulose spray; Ragusa Asphalte Paving Co., Ltd., asphalt; Caston and Co., lift enclosures, collapsible gates, grilles, etc.; W. H. Gaze and Son, decorations; Walter Gilbert, pressed glass; Russ Co., soda fountain; Birmingham Guild, marquises, bronze doors; G.E.C., electrical fittings; J. A. King and Co., roof lights and pavement lights; John Bolding and Sons, and W. N. Fry and Son, sanitary fittings; Bratt, Colbran and Co., fireplaces; British Mannesmann Tube Co., flag poles; Hobbs, Hart and Co., strong room and book room doors; Parker, Winder and Achurch, door furniture; Farrow and Jackson, wine bins; Edison Swan Electrical Co., refrigerators; Arrowsmith and Co., stone carving; Gray and Sons, lightning conductors.

Messrs. Joseph are the architects, with Sir Edwin Lutyens, R.A., as estate consultant.

Cropthorne Court, Maida Vale.

This new block of flats has been specially designed to obviate inside areas and to give a maximum amount of light in all directions, while giving the main staircase a special position. The building is served by a private road, front and back. There are three main entrances of pleasing design, the lift gates, surrounds, and grilles being of a silvered finish. Telephones are installed to communicate between kitchens and tradesmen's entrances. All fittings in the kitchens are recessed, leaving unobstructed room, and ample accommodation has been provided for the storage of trunks, etc. The owners have special arrangements with the electric supply authorities for supplying electricity for all purposes at ½d. per unit, and tenants have facilities of the supply company's 24-hour special service in the case of breakdown. Both gas and electricity are installed for cooking purposes. Specially designed kitchen cabinets are built-in in each flat. Messrs. John Knox and Dyke, Ltd., are the general contractors, and following is a list of sub-contractors:—Diespeker and Co., fire-resisting floors; Crittall Manufacturing Co., steel casements; Ames and Finnis, 2 in. Sussex stock facing bricks and Italian Lombardic roofing tiles; Express Lift Co., lifts; Leeds Fireclay Co., Ltd., "Lefco" faience and sanitary fittings; Comyn Ching and Co., Ltd., oil heating apparatus and hot-water installation; Walter Cowen, Ltd., plumbing and draining; Henry Green, Ltd., fire-escape staircases; Frigidaire, Ltd., refrigerators; Tredegars, Ltd., electrical work; Val de Travers Asphalte Co., asphalting. All the materials and workmanship are British.

Sir Giles Scott, R.A., F.R.I.B.A., is the architect.

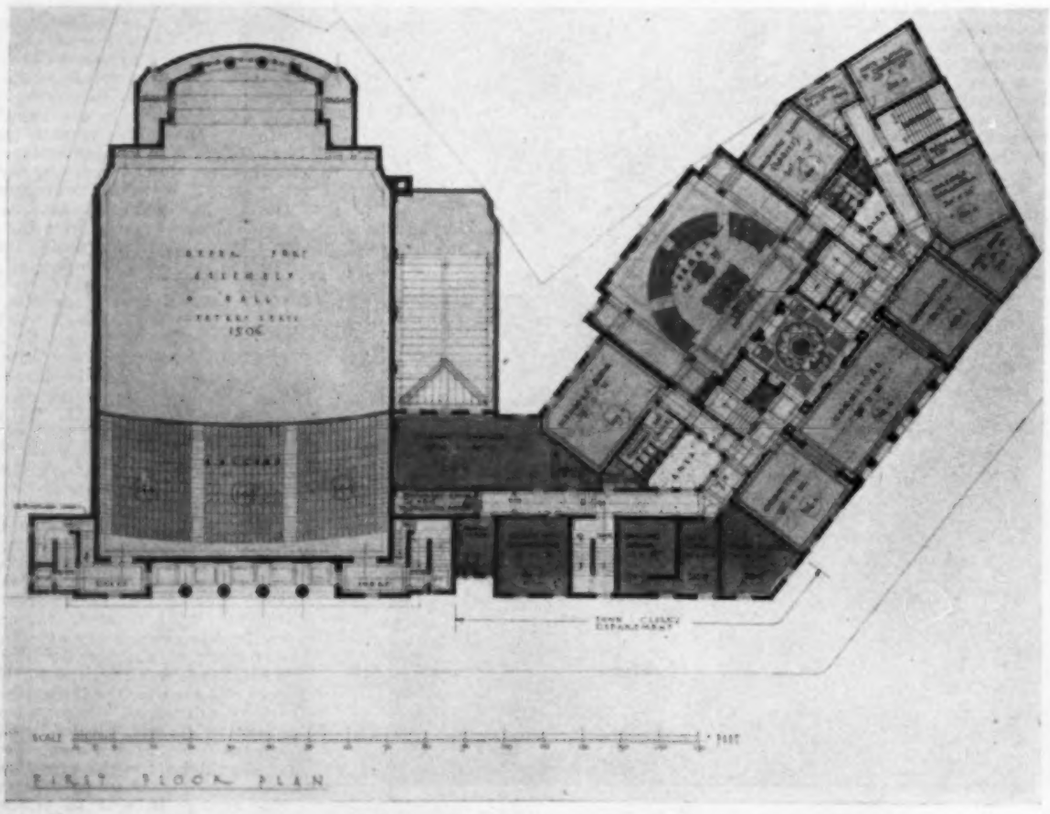
House at Sevenoaks.

This house has recently been built on the Wildernesse Estate, Sevenoaks. Perhaps the most notable point in the plan is the relation of the garage to the house. In this case it is so placed that the front door opens from a covered way as in an old English inn. Over this covered way and the garage the roof space allows of two bedrooms, which can either be used for a chauffeur or as additional bedrooms for the house. The house is in a wooded site, and the bricks and tiles and oak half-timber work have been selected to harmonise with their natural surroundings. Messrs. G. E. Wallis and Sons, of Gravesend, Kent, were the contractors.

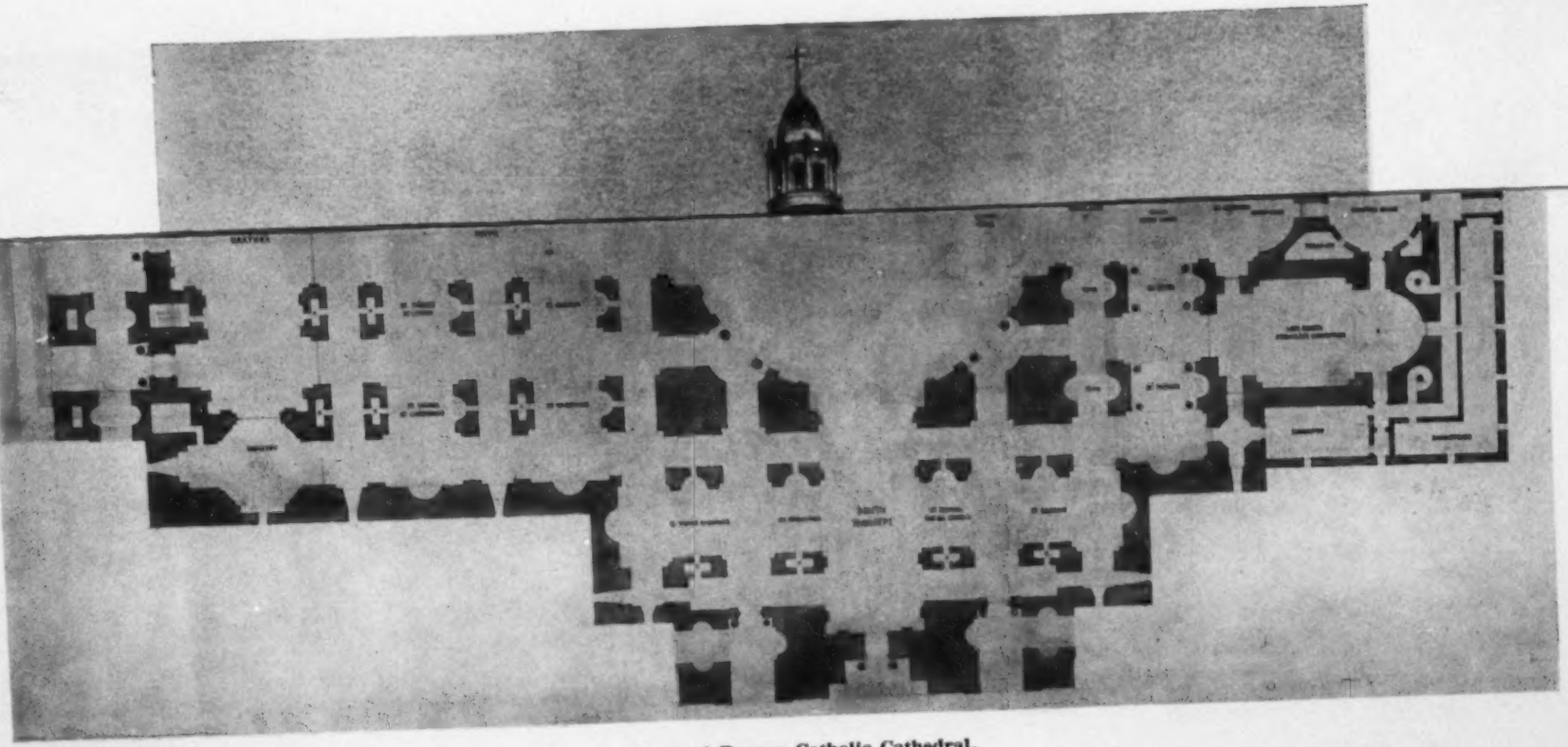
Messrs. Baillie Scott & Beresford are the architects.

Luton Town Hall Competition.

We give this week the third premiated design in this competition by Mr. H. J. Harding, A.R.I.B.A.



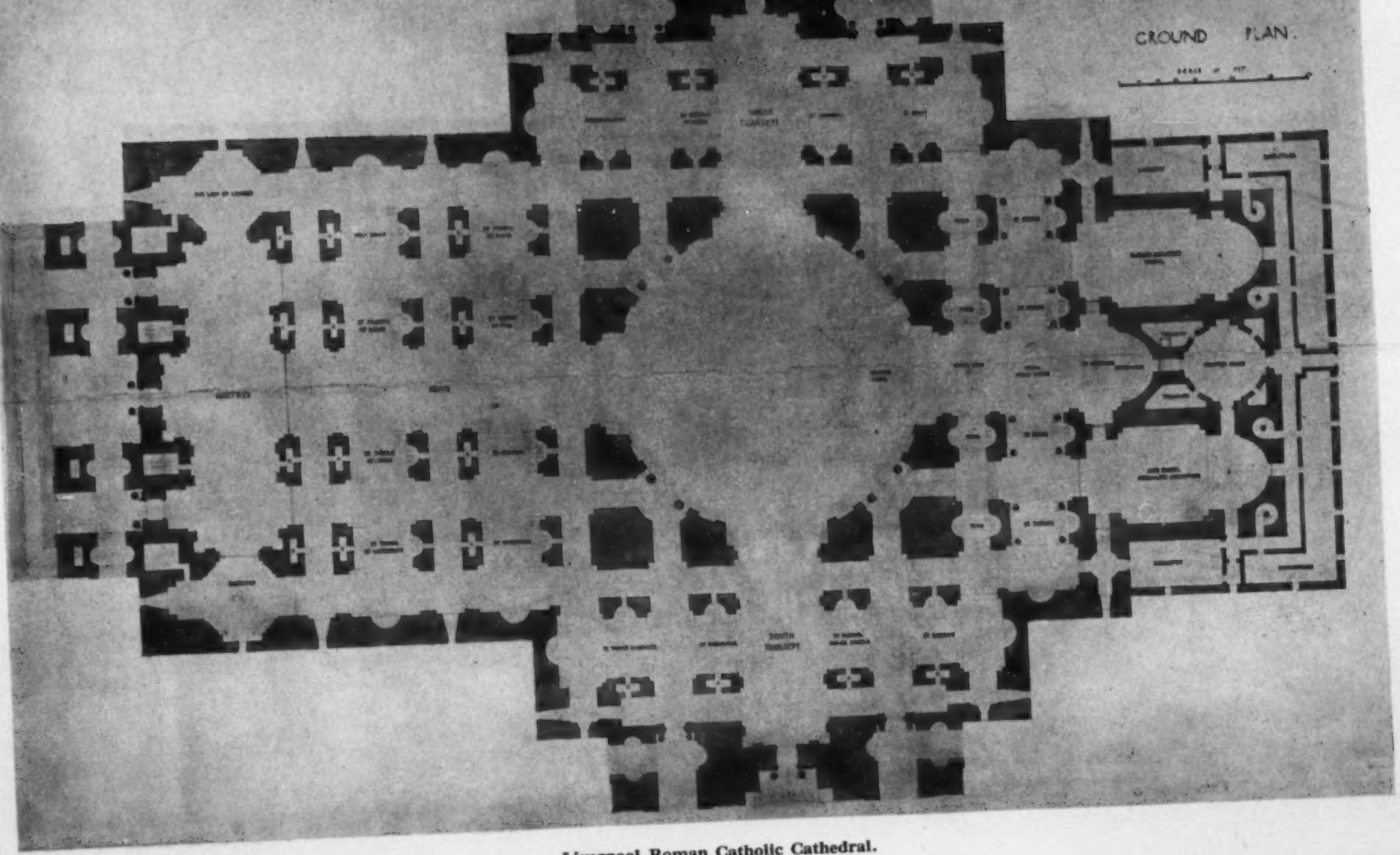
Competition for New Town Hall, Luton : Third Premiated Design. By Mr. H. J. Harding, A.R.I.B.A.



Liverpool Roman Catholic Cathedral.

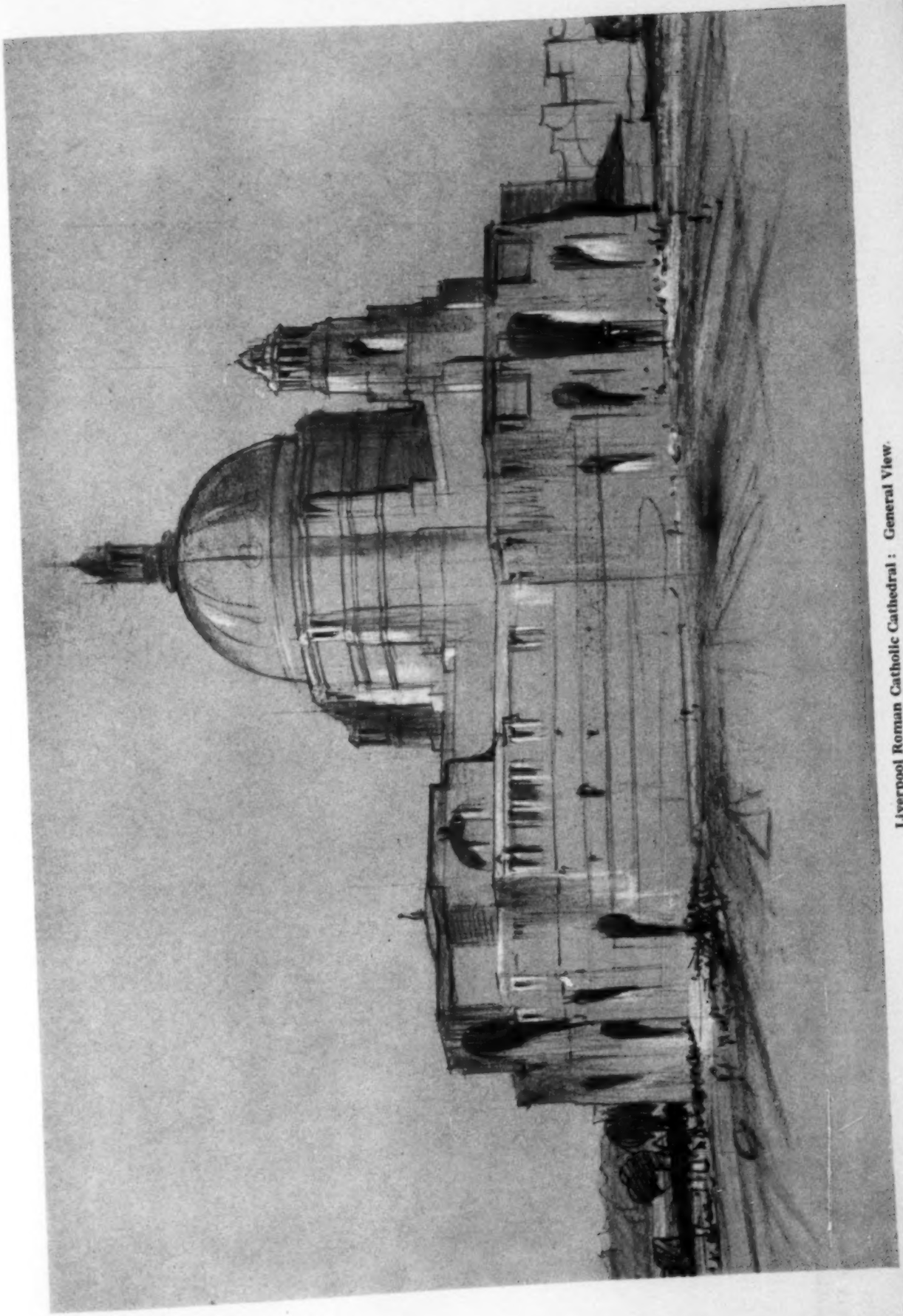
Sir Edwin Lutyens, R.A., Architect.

Perspective View.



Liverpool Roman Catholic Cathedral.

Sir Edwin Lutyens, R.A., Architect.



Liverpool Roman Catholic Cathedral: General View.
Sir Edwin Lutyens, R.A., Architect.

Messrs. Gamage's New Store Building, Oxford Str

MESSRS. JOSEPH, Architects. (SIR EDWIN LUTYENS, R.A., Estat

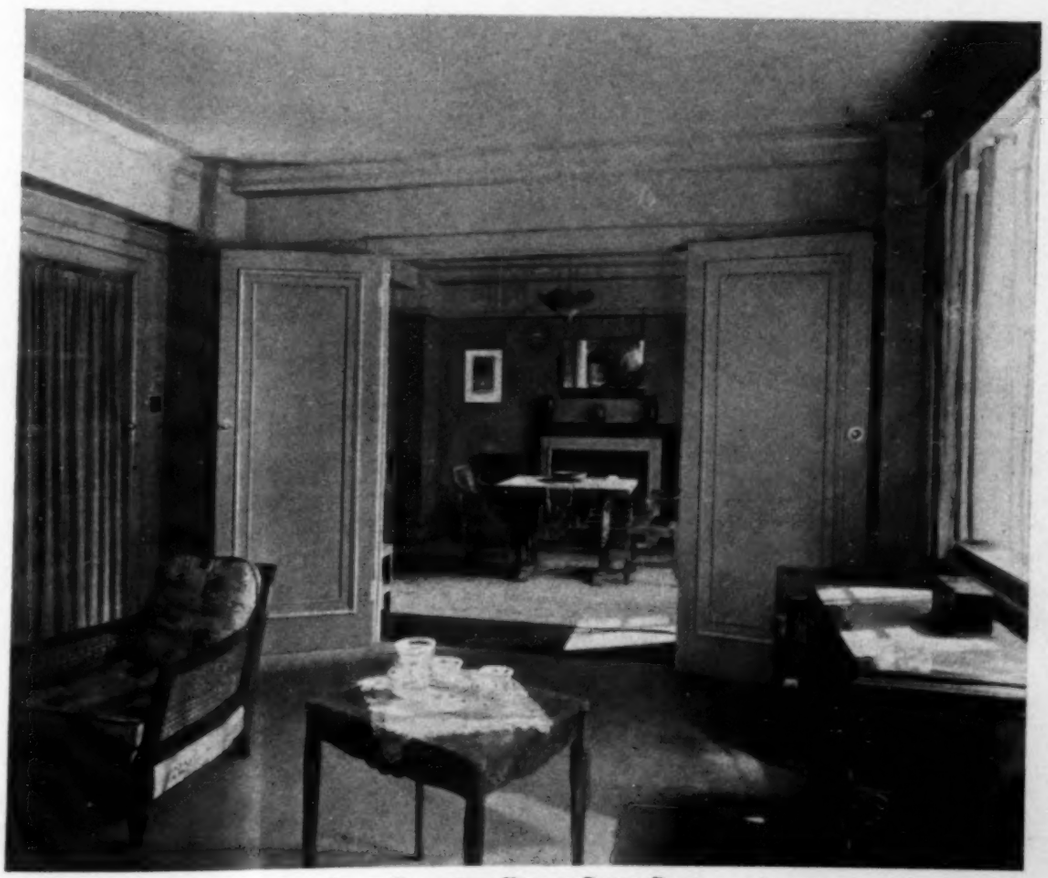
Oxford Street, W.

, R.A., Estate Consultant.)

"Cropthorne Court," Maida Vale: General View.

Sir Giles Scott, R.A., F.R.I.B.A., Architect.

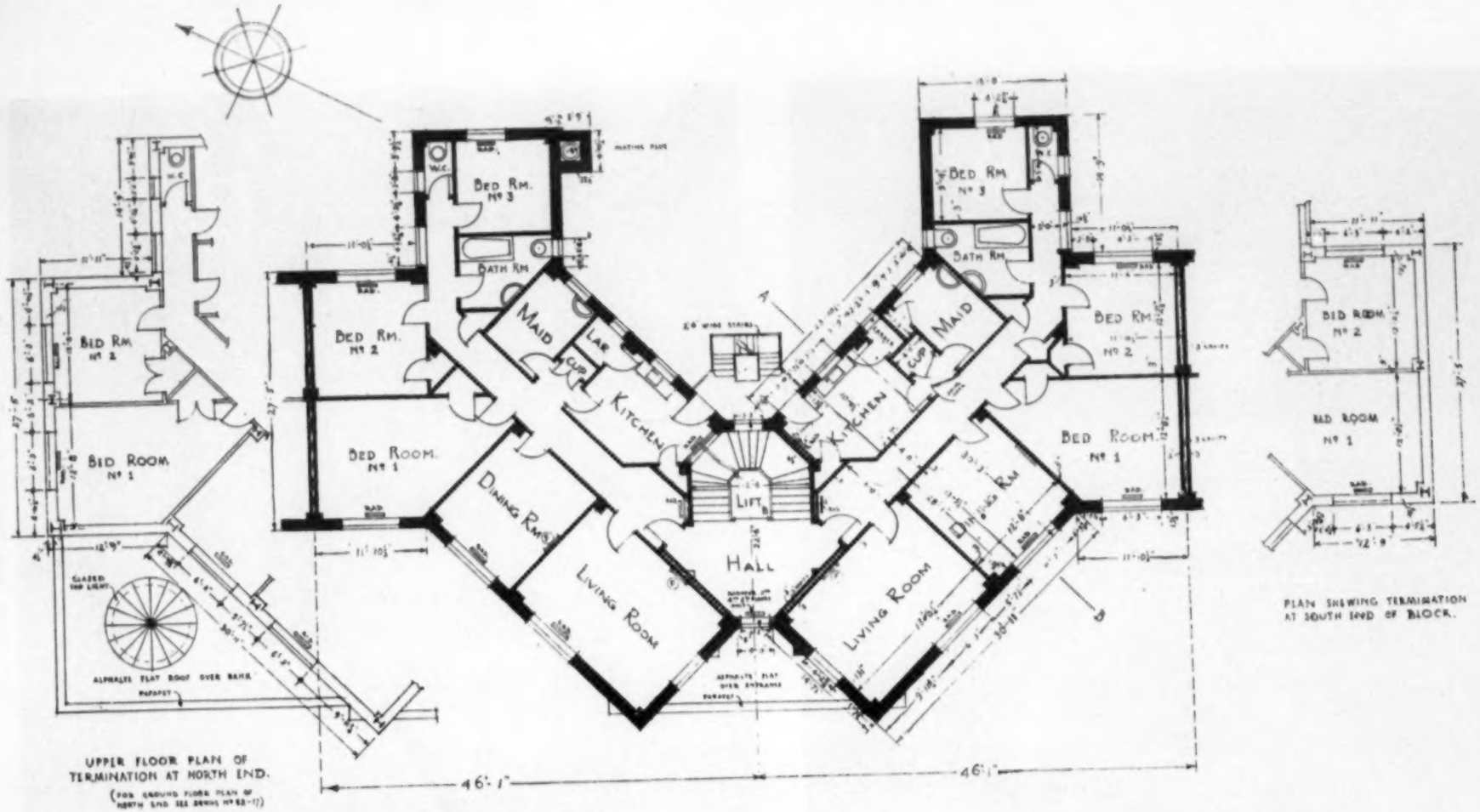
LIVING ROOM.



LIVING ROOM, WITH VIEW OF DINING ROOM.

"Cropthorne Court," Maida Vale: A Typical Flat.

SIR GILES SCOTT, R.A., F.R.I.B.A., Architect.



UPPER FLOOR PLAN OF TERMINATION AT NORTH END.

(FOR GROUND FLOOR PLAN OF NORTH END SEE DRWG Nº 82-17)

PLAN SHEWING TERMINATION AT SOUTH END OF BLOCK.

TYPICAL FLOOR PLAN

(UPPER FLOOR CENTRE BAY)

SCALE OF EIGHT 10 5 0 10 20 30 40 50 FEET TO AN INCH

CROPTHORNE COURT: MAIDA VALE

SIR GILES GILBERT SCOTT R.A.
7 GRAYS INN SQUARE . W.C.1.
OCTOBER 1928.

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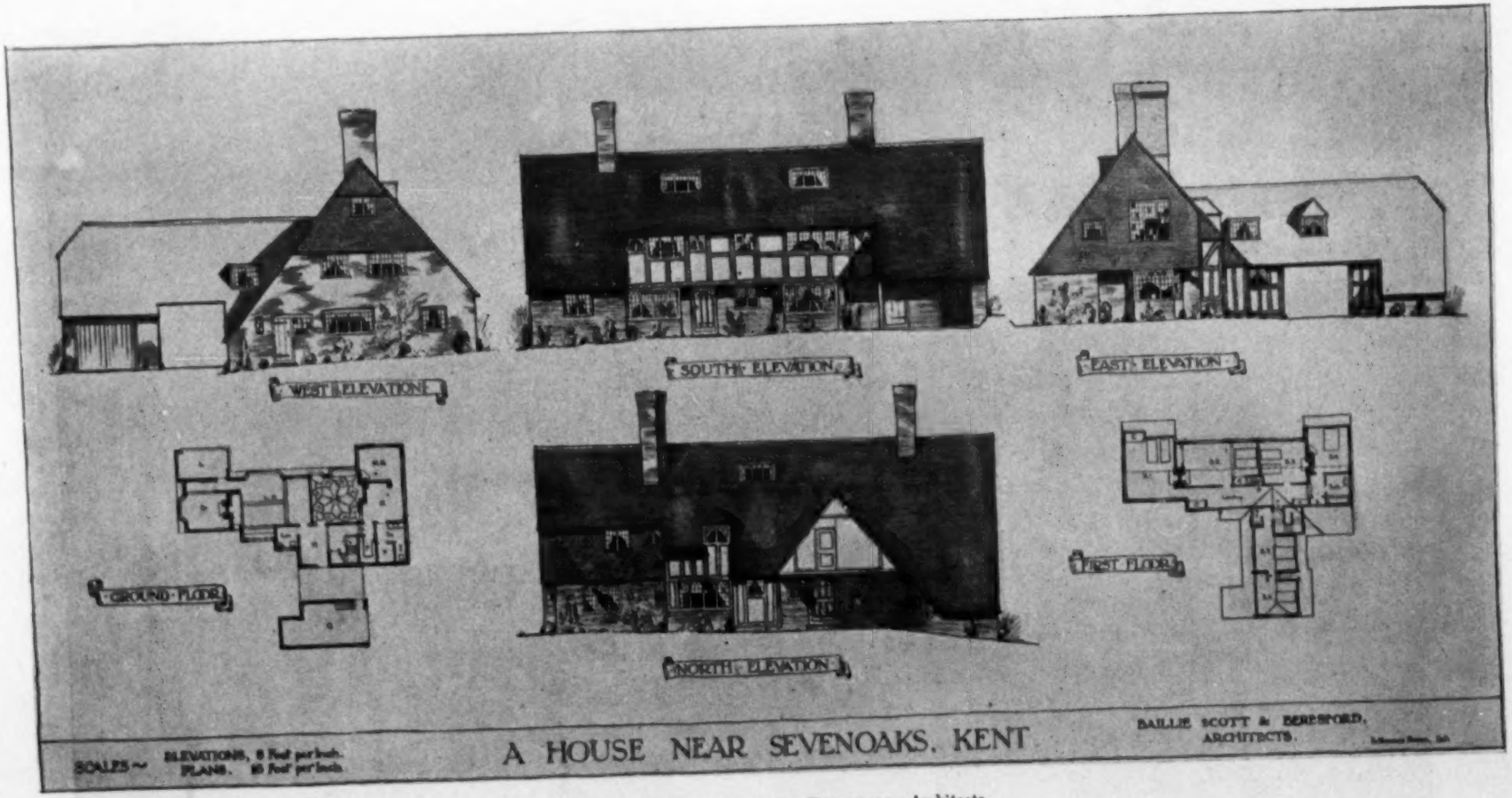
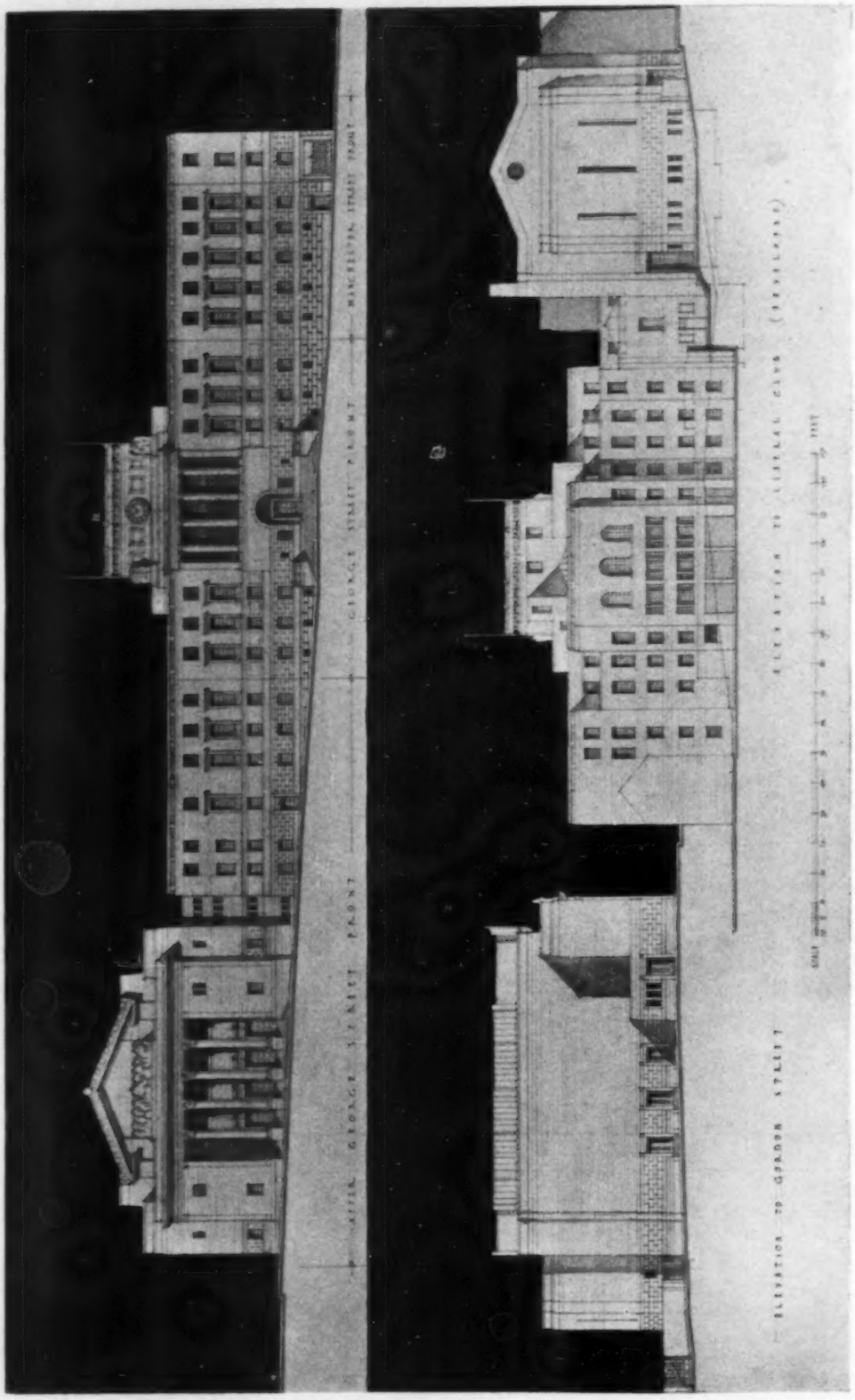
SIR GILES SCOTT, R.A., F.R.I.B.A., Architect.

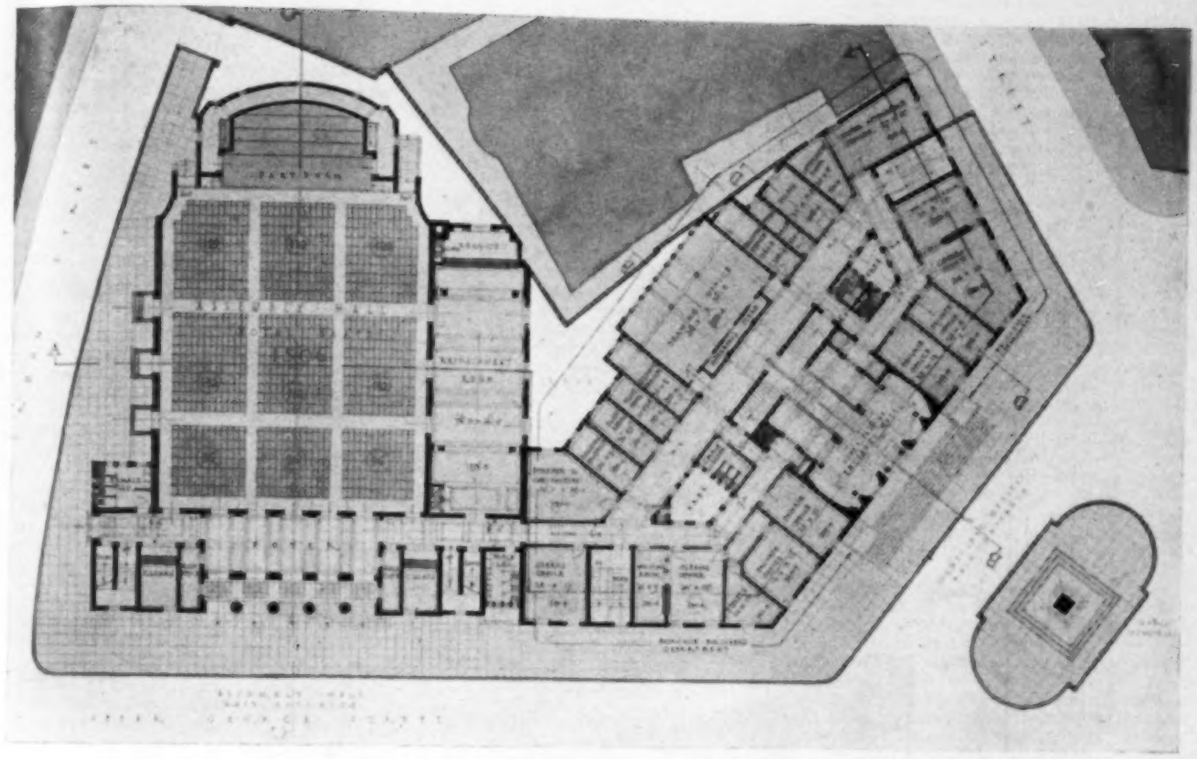


MESSRS. BAILLIE SCOTT AND BERESFORD, Architects.

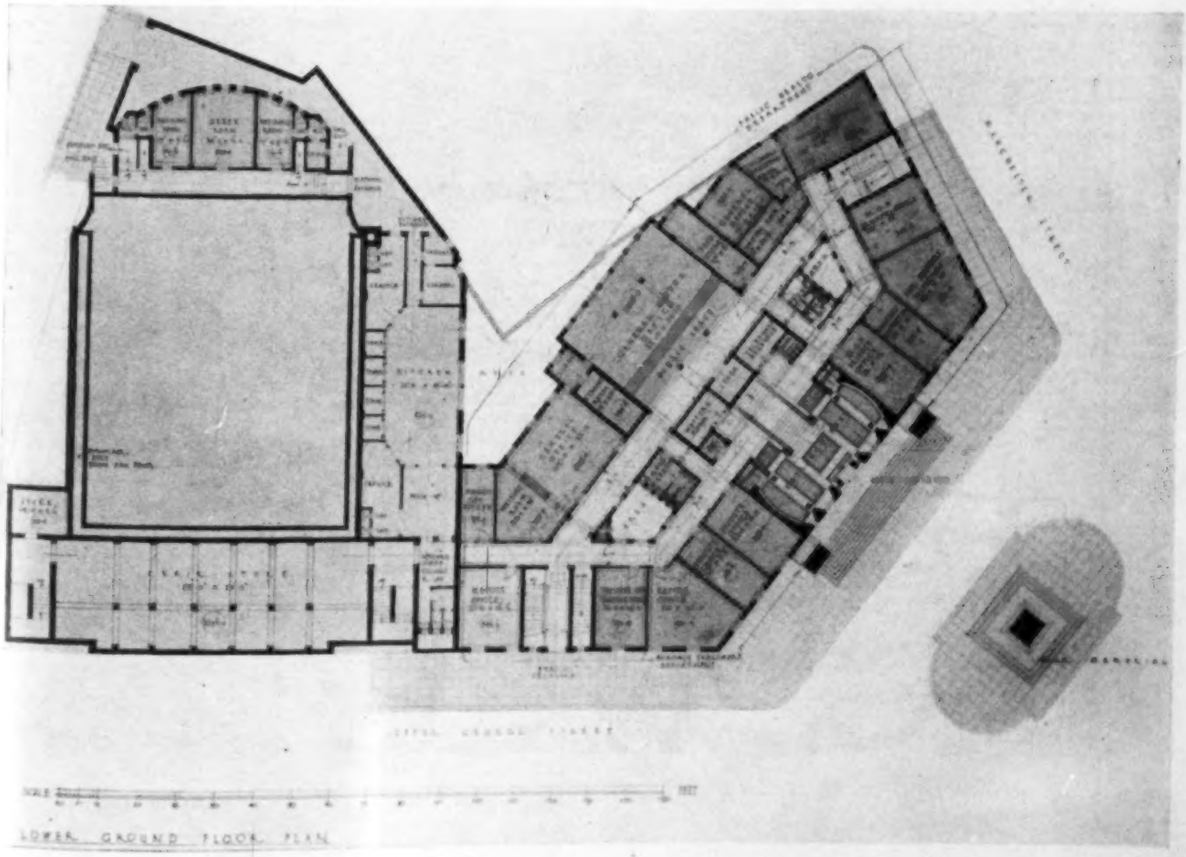


Competition for New Town Hall, Luton: Third Premiated Design.

By Mr. H. J. Harding, A.R.I.B.A.



Upper Ground Floor Plan.



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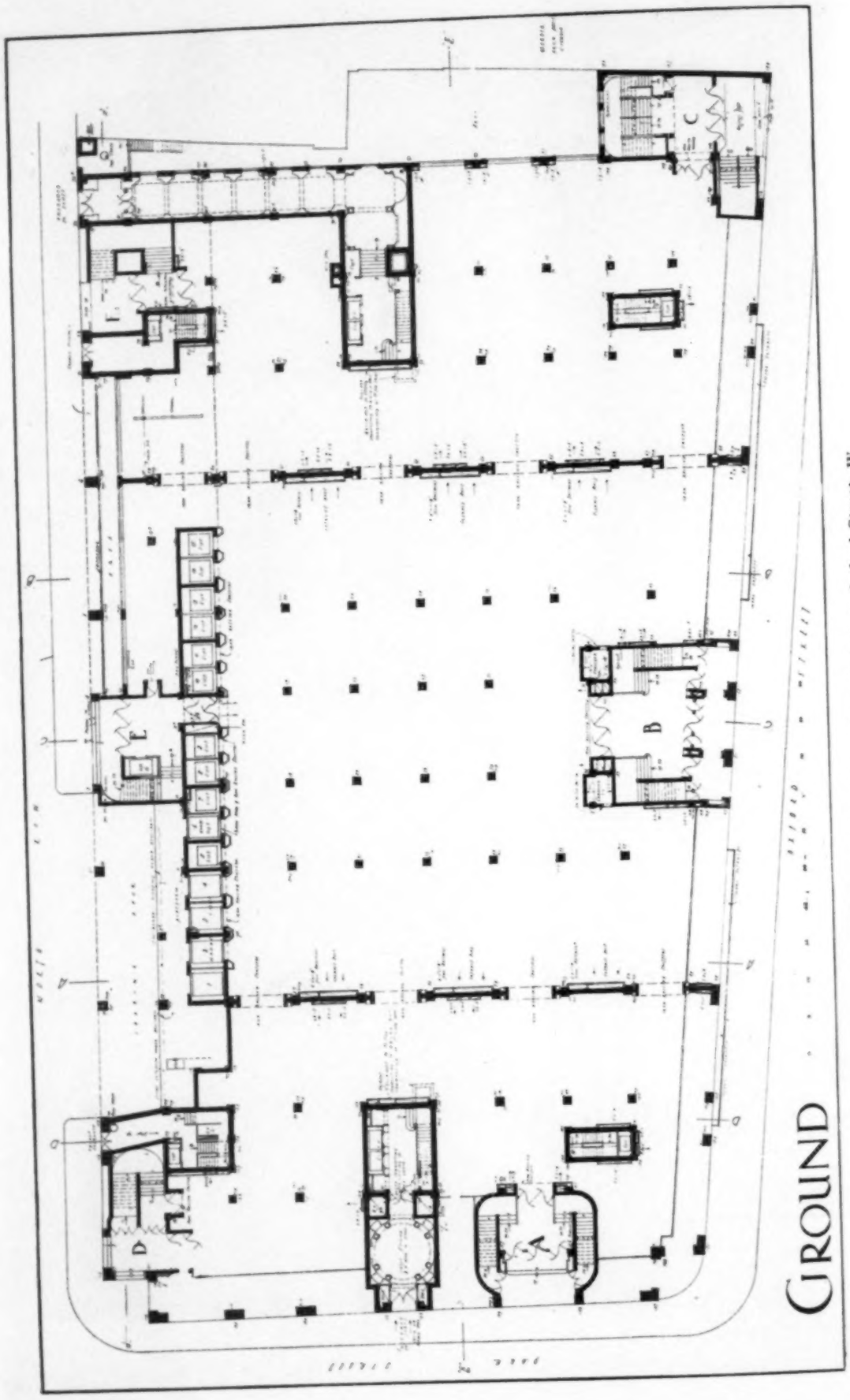


Messrs. Gamage's New Store Building, Oxford Street, W.

Messrs. Joseph, Architects. (Sir Edwin Lutyens, R.A., Estate Consultant.)

THE VALUE OF PRECEDENT

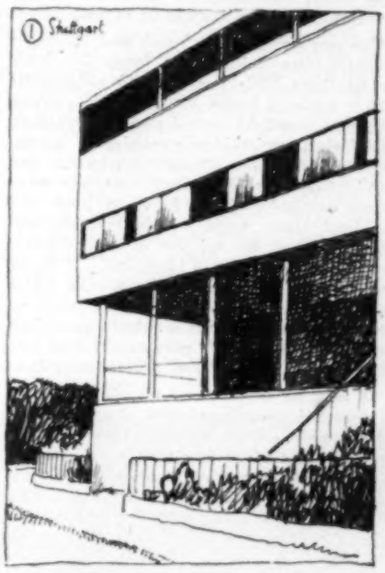
By A. EDGAR BERESFORD.

It is fashionable nowadays to disparage the value of tradition in building design. Why, we are asked, should we not strike out in an entirely new direction; break new ground; develop a really new modern style? When, on rare occasions, the daily Press ventures to publish anything about house-building (a subject, incidentally, of far greater importance to its readers than many which are commented upon every day) the note is invariably one of criticism of the stupidity of architects and builders who continue to use the old methods and obsolete styles; whilst the only commendation is reserved for the novel and iconoclastic efforts of certain Continental modernists and their imitators. Only the other day a contributor to a leading evening paper wrote, in a splenetic attack on English house-building: "Our little slap-dab dwellings are not as well designed as those of Austria and Germany. They still bow the knee to the dead tradition of rural England." Another recent article in praise of modern French work went so far as to state that the average British home of to-day had not improved one iota either in internal amenity or in external beauty and fitness beyond the average house of fifty years ago: the reason again put forward being our hide-bound slavery to the methods and traditions of former times.

Impatience with all precedent has been typical of youth in any era. We set out on our careers determined on revolution; a new heaven and a new earth. It is good that it should be so: unrest indicates life, vigour, growth, progress. At the same time, it is well to remind ourselves that a mere breaking-up of old laws, unless we have better ones to take their place, means not progress, but disorder and futility. The rose-grower who wishes to produce a new and beautiful bloom begins by grafting on to a sound, well-rooted stock; not by digging it up and replanting it upside-down. And no new style in building has ever been able to disregard its precedents.

We are told that, as builders, we do not grasp the possibilities which modern science and invention have opened up to us. Mud walls were good enough until cutting tools made it possible to hew stone. Timber construction was sensible and right till steel and iron came. Brick and stone served their purpose well and truly until the advent of modern reinforced concrete. But now, they say, styles which were evolved out of the correct use of the attributes of the old materials are *démodé*, obsolete. A new order is demanded; a new alphabet of design, based simply and exclusively on the materials and methods available to-day. Such things as arches, for example, were no doubt scientific and sensible when the only possible way to bridge an opening was with small units, but to use them in a modern building is just a sentimental anachronism, an outworn useless formula. Solid angles and abutments, once essential, are nowadays merely useless survivals of an effete tradition. Let us get down again to basic principles and evoke an entirely new and original motif, putting out of our minds all the old shibboleths and affectations!

But how far is it possible to do this, even if it be desirable? Need the effort to design strictly to the functions of modern materials imply such thorough-going anarchy? There are some characteristics in traditional design which call constantly for revision, but there are many more which are as essential and right to-day as ever they were. If we believe that the desire for change *per se* is useless unless it be a change for the better, we shall find that there can be little variation possible in many of the essential basic factors of design. For the art of building, mother of all the arts, is not a matter of last year's fashions; it is the sum total of

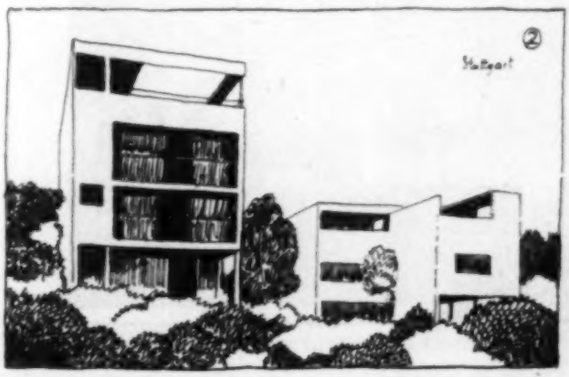


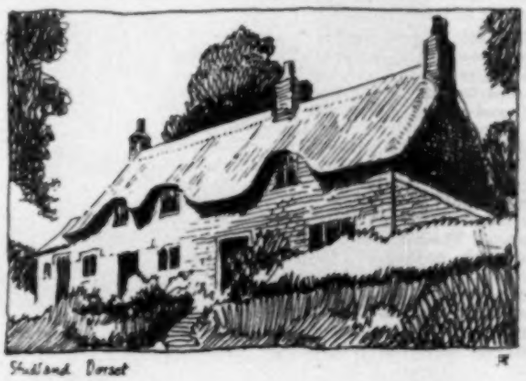
man's experience on the earth: it has been evolved, painfully enough, by many trials and many errors throughout the ages, and it would be worse than foolish to ignore all the accumulated experience of the past and more than futile to attempt to start again without the restraining and guiding hand of proved tradition.

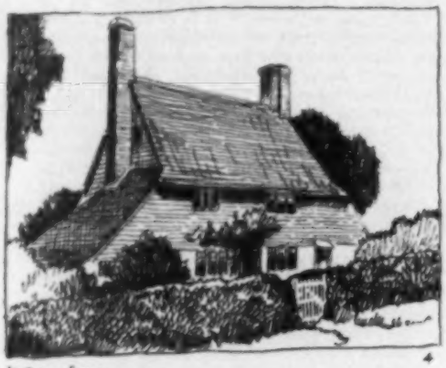
Every age experiments with some new method of expression, some new type of decoration or ornament; but the basic principles of strength and beauty and fitness, the foundation and backbone of all design, are surely immutable, indispensable.

One of the essential factors of a building, we have believed for generations, is that it shall look—as well as be—strong and substantial. Whether our construction be of wood, stone or brick, if it is to have a satisfying appearance of solidity and security its angles must rise firm and unbroken from its solid base, its openings shall not be disproportionate to its plain solids, it shall look static and not precarious or (in the police-court phrase) "without visible means of support." Our eye, long trained to recognise this attribute, does so without conscious effort. Is this to be deliberately disregarded in new work? Is there, for instance, anything in the spirit of reinforced concrete construction which demands that the angles of a building shall be completely cut away to provide a round-the-corner window? The new construction makes it possible, certainly: but the effect either from inside or outside is one of instability and unrest which would be entirely absent if a solid angle were retained. Our modernist designers insist so much on their creed of "fitness for purpose," and the expression of material characteristics, that it surely is not unfair to ask how far the use of steel and concrete demands, as essential features of design, the negation of such a traditional principle as this necessity for the appearance of stability. Is it not enough to use our new inventions in a legitimate and sensible way to simplify old difficulties and problems: to make "the crooked straight and the rough places plain"? If we build in concrete let us make it look concrete certainly, but in order to do that we need not try to invent new styles entirely. Whilst we may condemn the falsification of a concrete building by facing it up with a shirt-front of some period design, there are still other and better ways of designing in concrete which shall be sane and sensible, and to a very large extent based on traditional and still reasonable lines.

But it is to be feared that the principle behind much modernist design is less a matter of sincere "expressionism" than the determination at all costs to be different, to attract attention by what the Germans, in the late war, called "shock tactics." The tunelessness of modern music was once commented on by a witty critic as reminding him of the parable of the wicked servants in the vineyard in a far country. Whenever the music begins to coalesce into some kind of melody the composer at once seems to exclaim, "Here is an air: come let us kill it!" and immediately he wanders off again into incoherence. In a similar fashion, whenever the modernist in architecture appears to stumble across an old principle, in horror he at once proceeds to demolish it. The northern hemispheres have used pitched roofs since the first "crutched" shelter was evolved: therefore—and for no other reason—we must now have flat roofs. Moreover, if we can support them by an elaborate system of cantilevers from one edge only, so much the better; they appear to defy even the law of gravity; a sweeping victory over tradition! One would imagine that the laws of fitness and propriety would be satisfied in the mind of any responsible being by making any door opening in the shape of an upright oblong. But no, eccentricity—it can be nothing else—recently decided that doorways should take the shape of isosceles tri-







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angles! Can there be any logical reason adduced for such freakishness? One is bound to think that such efforts can have but one reason; to be startling and new at all costs.

Thirty years ago, at the dawn of the new century, there was a similar outbreak of rebellion against tradition; principally in France and Germany. "*L'Art Nouveau*," as it was then termed, had a brilliant but brief existence, like most daring and outrageous fashions. Its main principle, if it may be considered to have had anything so stodgy and old-fashioned, was a complete reversion of the theory of "expressionism." Forms were deliberately given to materials which were entirely unsuitable and uncharacteristic to the material. In that case also, the aim of the school seemed to be a deliberate and studied perversion of old and well-established precedent, not because it pretended to be a better thing, but merely in the rebel determination to do a different thing. "*L'Art Nouveau*" was principally concerned in the design of furniture and decoration, but it had for a time a certain influence on building and, indeed, to some extent, a beneficent influence. There can be little doubt that revolutions of this kind are of value; they make us think, and the effort to analyse any new departure makes one necessarily get back to root principles, even if only to prove comparisons between new and old, and the study thus involved must inevitably bear fruit in our work.

In the present-day efforts to devise a new order, some virtues stand out clearly and indisputably, though our appreciation of them is to some extent tempered by what we feel at present to be the often incongruous futilities which accompany them. For street architecture in towns and cities, the plain, broad surfaces of the best of the new-style work, unbroken by fussy ornament, appeal to us as admirable, and the dullness and monotony which might be expected as a resultant of such drastic elimination of details is often quite counterbalanced by the introduction of strong, clean colour. But in such work the basic principles of stability, dignity and proportion are observed just as much as in the most correct Classic façade; and the effect of novelty is not only pleasant and amusing, but, in a commercial building, entirely justifiable as a permanent and arresting advertisement.

The real "whole-hoggers" are the flat-roofed, squint-angled, sprawling buildings, with angles gnawed out haphazard, vast and ill-proportioned windows, and widely spread, thin and unsupported raft-shelters, which are here and there appearing in rural England under the guise of the "last word in building"—the only fit and proper "twentieth-century houses." Their stability is no doubt impeccable, but to our eyes they seem to be in imminent danger of collapse. Their roofs, to our unaccustomed view, look unfinished, incomplete; though an old castle or parapeted manor which has an equally invisible roof never looks so. The absence of any kind of symmetry in planning or in elevation seems to be the object of special care, but this, though frequently one of the graces, is not by any means an essential of design. Let us consider these new buildings from the angle at which we are assured they are designed, that is the starkly practical and utilitarian standpoint. We build a house as a shelter, a refuge from heat and cold and storm. Its fabric should thus be the best obtainable insulation against these perpetual forces which we wish to shut out. The modernist's walls are as thin as science can make them, his roof is invariably a flat one—that most difficult of all forms to make watertight—imposed immediately above his rooms without any intervening blanket or air-space, and his windows are vast sheets of thin glass. One would at once say that the insulation is the poorest imaginable against the varying heat and cold of the English climate. Compare the other extreme, a century-old cottage with two-foot-thick stone walls, a two-foot-thick thatch roof and the smallest windows which can adequately light the interior: and on the direct practical grounds of protection against the outside world the so-called efficiency of the new house fails indicrously in comparison.

The modernist in his harsh and inflexible utilitarianism deliberately turns his back on all those little nuances and refinements which make a house into a home. Away with sentiment, he says, I want a workshop, an efficient, scientifically equipped laboratory, a dustproof, up-to-date machine! But surely this is not all that humanity as a whole demands. Even in these hard and practical times must we deliberately and callously shut out all the gentle, delicate graces and memories of tradition? It is, we hope, not a mawkish sentimentality which asks that our "*Dulce Domum*" may be something more than a sanatorium, soulless and heartless, even if germproof: and here the influence of tradition is indispensable.

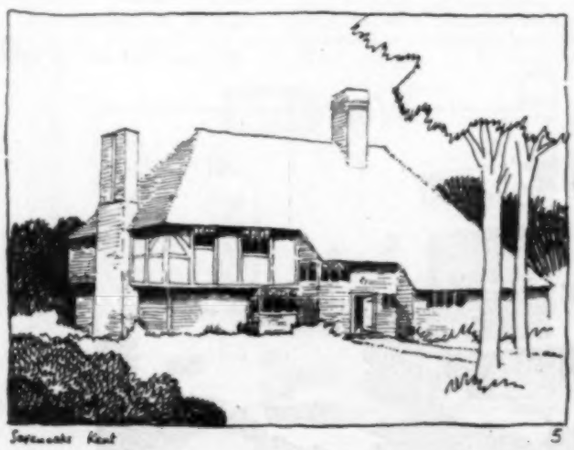
It may be that as our eyes become more accustomed to these new departures in design we shall less resent what at present seems to be the ruthless perversion of much that we have learnt and believed to be right and fitting. It should also be remembered that between the two extremes—on the one hand, the slavish copyism of the old styles, that perpetual rehashing of the ancient ingredients *ad nauseam*, and on the other the ultra-modern tendency to abandon all that has built up tradition—there is the sensible middle course of adapting new methods and ideas which have other virtues than their novelty and incorporating them in a new style which, based on the old principles, shall have—and justly—a better chance of general acceptance and approval. It must be wiser, instead of starting with a clean slate, to leave on it for our guidance those old sums which have worked out right.

BOOK REVIEW

The Law Relating to the Compulsory Taking of Land by Public Companies and Local Authorities. By THOMAS WAGHORN, of the Inner Temple, Barrister-at-Law. Revised by R. BORREGAARD, M.A. (Oxon), of the Inner Temple, Barrister-at-Law. Third and enlarged Edition. (London: Effingham Wilson. 1930.) 5s.

The first edition of this little work appeared in 1904, to be followed by a second edition in 1906, which we noticed in our issue for December 1, 1906, and those who found a short text-book dealing with this complex subject of service will welcome this new edition, as considerable changes have been introduced in both the law and principles applying to Compulsory Acquisition of Land since 1906. This is well expressed in the preface by the present author as follows: "Differentiation in the once uniform principles governing the subject has made a new edition of this work desirable. The most important cleavage is between compulsory acquisition by private promoters and undertakings on the one hand, and Government departments, local authorities and other public authorities on the other hand." The author goes on to explain that this general differentiation was effected by the Acquisition of Land (Assessment of Compensation) Act, 1919, elaborate safeguards being introduced to secure "that the landowner shall make no profit out of the needs of those who themselves seek none." The landowner has experienced the effect of this principle under a number of Acts passed since 1919, but we doubt if he has ever seen it more neatly stated. It may be a question whether employment would not benefit were the principle reversed. The work in the main follows the arrangement of the subject adopted in the last edition, but there is great improvement in the type and binding. The digest of cases contained in the former edition is omitted, but the text is illustrated by reference to decided cases; in some instances the references to these cases in law reports are given, but in others the reference is omitted, and we venture to suggest that in a future edition a Table of Cases would add to the value of the work.

In making this suggestion we feel we are really paying a compliment to the author's work, for it is only in works of some substance that a Table of Cases is called for, as it renders it serviceable to more than the mere "popular" reader. This handbook is thoroughly readable, and the author appears, so far as we have examined it, to have done his work well. The new Housing Bill, of course, does not appear in it, as it is not yet law, but the trend of modern legislation is such that a further edition is likely to be called for at a far shorter interval than that which has elapsed since the appearance of the second edition.



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THE BOMBAY SCHOOL OF ART AND NEW DELHI PAINTINGS

By VASUDEO B. METTA.

In 1926, the Government of India commissioned the Bombay School of Art—which is famous in India for having revived the art of mural painting—to decorate with mural paintings Committee Room *A* in the Imperial Secretariat at New Delhi. This work was executed by fifteen students of the School under the supervision of their principal, Mr. W. E. Gladstone Solomon.

The dome of the room has been divided for purposes of painting into eight parts, each one of which is covered with the figure of an aspara (Indian fairy), symbolising one of the eight periods of Indian art: the eight periods being Sanchi, Gandhara, Ellora, Ajanta, Gupta, Jehangir, Shah Jehan and Modern.

Below each of these asparas characteristic architecture, representative of the period is painted, and a border between each of the eight periods converts the dome into the plan of an inverted lotus with an aspara on each petal. Below this the lunettes—which are seven in number—are filled with compositions of figures representing "Architecture," "Painting," "Sculpture," "Drama," "Dancing," "Music" and "Poetry." The spandrels between the lunettes are adorned with floral medallions of conventional type on a ground of Indian red. The figures on the dome and on all the lunettes except "Drama" are life-size.

The two paintings reproduced on page 463 are "Architecture" and "Sculpture." The former is painted in Mohammedan style, and shows the interior of a *zenana* in a Mohammedan palace. The woman—who symbolises architecture—is seated on a carpet on the floor, with her back resting against a cylindrical pillow. She is wearing a yellow silk gown, which covers the whole body, and a thin silk shawl as her upper garment. Near her is a small model of the tomb of Sultan Mohammed of Bijapur, which has the largest dome, not only in India, but in the whole world, and which is famous for its whispering gallery. Her two girl friends who are seated near her are looking at her architectural sketches. They are dressed in thin Dacca muslin. In the right-hand corner of the picture some papers of architectural sketches are lying about. An incense-burner is hanging above, and incense is floating through the room.

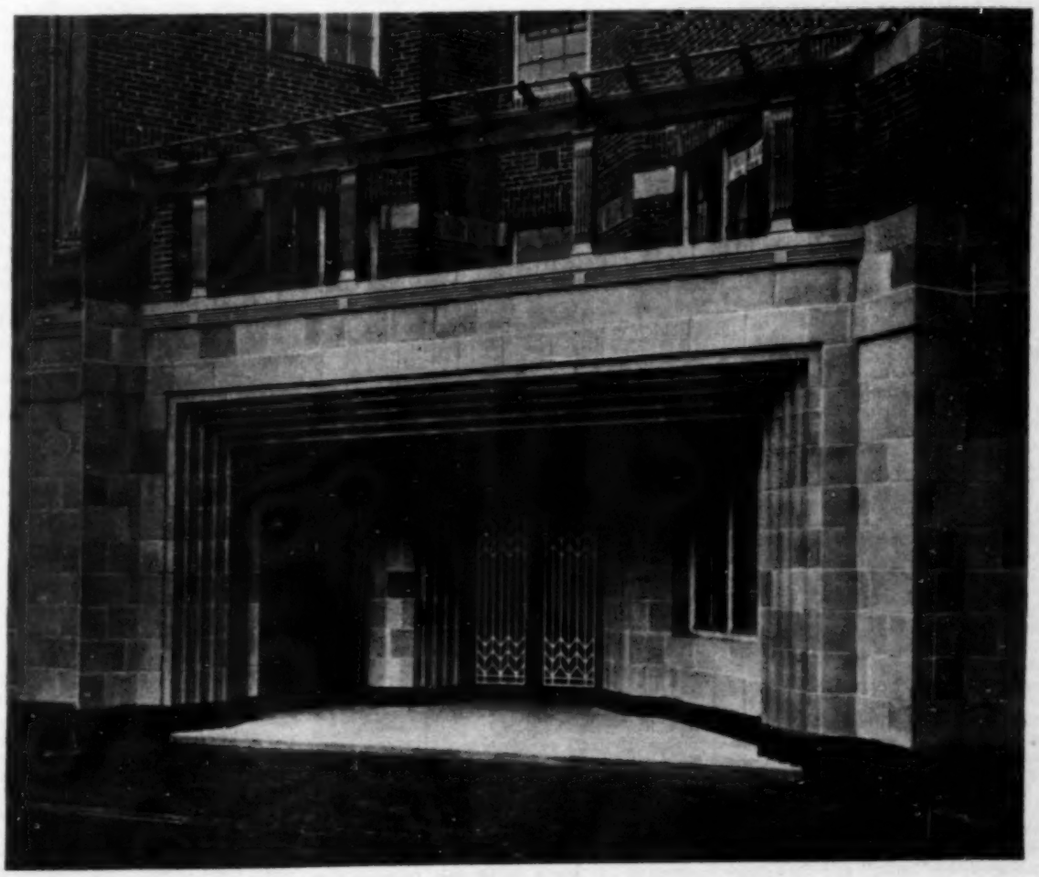
The picture "Sculpture" is treated in the style of the Ajanta Caves. The dark rich Ajanta girl is seated on a stool of black sheeshum wood, and is carving out of black stone the image of an elephant (an animal much in evidence in the sculptures of the Ajanta Caves), with a hammer and chisel. The background consists of an open-air view of hills. Behind her is the bronze image of Ganesha (the elephant-headed god), below which is the instrument-box. The girl is wearing the head-dress of the period—a lotus-shaped wreath on the top-knot of her hair, heavily hanging kundals in her ears, a wristband, bangles, anklets, etc.

These paintings were painted in the new style of Indian art, an art which is an admixture of Eastern and Western styles. The Bombay artists do not wish merely to reproduce the style of their old art—Buddhist, Rajput, or Moghul. They feel that that would not be sincere, and they hold that no art which is not sincere can be called genuine. They have therefore adopted Western technique to a certain extent. But to a certain extent only. They do not desert the line for the chiaroscuro, substitute masses for outline, or discard the silhouette for something else in mural painting.

There are some Western art critics who pretend to be horrified at any Western influence creeping into Indian art. They want Indian artists to paint in the way that their ancestors did. This means that they want them to think, feel, and aspire as their ancestors did. But this is obviously impossible. Indian life is changing fast. Indians live, dress, think, and feel in a way that their ancestors of even a century ago did not do. And since his art is the spontaneous expression of life within him and around him, it would be absurd for an Indian artist of to-day to draw and paint like the old masters of his country.

Then again, the Indian artist has to live like the artists of other countries. And as the tastes of princes and merchants of his country are becoming Westernised—for good or bad does not matter—he is commissioned by them to execute works for them not in the old Indian style, but in the western style. If he refuses to carry out their orders, those princes and merchants will ask Western artists to do the work for them. And that would mean starvation for them. Art is as much the product of the artist's thought and feelings as of his daily necessities.

The paintings at New Delhi are painted in oil colours on canvas embedded in the wall. The medium is of Western origin, but there is no reason why it should not be adopted in the East. It is as good as the other mediums—the fresco and tempera. Fresco is not always good: it sometimes cracks. Tempera, being hard and sharp, not infrequently fails to convey the "atmosphere" which the artist has in mind. Oil on canvas, which has been tried by the Bombay School of Art, for a decade, has been found safe both against the ravages of the climate as well of white ants. The future fate of this medium lies not wholly with Indian artists or their patrons, but with those who guarantee the damp-resisting and fissure-proof qualities of walls, domes, and surfaces in India.



"Cropthorne Court," Malda Vale: Detail of an Entrance.

SIR GILES SCOTT, R.A., F.R.I.B.A., Architect.

BUILDING PROGRESS—II

By A. M. G.

Although in other countries, notably America, Japan, and on the Continent, as well as at home, there is considerable progress in building research, yet it is particularly interesting to read in the report of the Fifth International Congress of Building and Public Works that the building industry has slowly accumulated knowledge throughout centuries of experience gained by "trial and error" methods, whereas other modern industries—such as heavy chemicals and electricity—had acquired knowledge which was based upon organised scientific research leading directly to industrial applications. The building industry, therefore, called upon as it is to meet the increasing and exacting demands of modern civilisation, should no longer rely upon the older empirical methods, but should supplement and accelerate them by the application of science and scientific methods in the laboratory

In the same report suggestions were made that scientific research in the building industry should be properly organised, so that the results obtained might be efficiently utilised. Surely that is just what we are expecting and getting from our Building Research Station.

The reports of other countries taking part in the same Congress were along similar lines, and, because it is believed that our building industry is realising that real, useful, and applicable knowledge will be obtained by such procedure, one is taking the liberty of emphasising some of the many branches upon which much experimental work is being performed, and definite results are being obtained.

Cement and Concrete.

It has been truly said that this is the "Concrete Age," therefore it is hardly to be wondered at that a very large part of the scientific research work at present going on bears upon cement, concrete, and reinforced concrete. We are told that theory still lags behind practice; that, for example, in many cases it is still impossible to get the right impression of the relation between the stresses and strains in reinforced concrete sections.

Again, although it is agreed that the quality of cement has much improved, the investigation of the actual constitution of cement is at present only in its early stages, and what is looked for is information upon such things as increasing the tensile strength and diminishing the volume changes of cement. The water-cement ratio, in order to obtain a definite consistency, is another important point that ere long may become rule-of-thumb knowledge.

Further, it has been said that more should be known about the weathering and durability of concrete—about the effects of acids, alkalis, and other chemicals. Another line of investigation might be the cause of, and methods of preventing or at least diminishing, the formation of cracks in reinforced concrete.

As far as the durability of concrete is concerned, it can be gathered from reports issued by the Building Research Station that much is known about the action of acids and alkalis. It is stated that weak organic acids, such as those found in soils, have no particularly marked effect upon cement or concrete, but that the stronger inorganic acids will produce disintegration, the rate of which will depend more or less upon the strength of the acid. With respect to the action of the alkalis there are two lines of investigation.

It is said that in one case the saturated solution of the alkali salt may penetrate the pores of the concrete, and there the ensuing crystallisation of the salts will set up pressures comparable with those exerted by the freezing of water, and therefore cause disintegration. Although this effect is not considered of much importance, nevertheless it is as well to guard against it by making the concrete as impermeable as possible by the correct grading of the "mix," and the proper control of the water content.

In the second case the effect is brought about by the interaction of the alkali with the lime that is liberated during the setting of the cement. The most frequently resulting compound is calcium sulphate, and, since an increase in volume always accompanies its formation, disintegration of the concrete is bound to ensue. That this seems to be the case is demonstrated by the fact that the rate of disintegration is roughly proportional to the formation of the sulphate. Every endeavour, therefore, should be made to obtain the carbonation of the surface lime so that an inert layer may be formed and thus prevent penetration by the alkali solutions.

Asbestos-Cement.

The reinforcing of cement by the addition of asbestos produces a material that has recently come to the front. Among its many uses is the construction from it of water-carrying pipes. Many scientific tests have been made upon this compound, such as for water-absorption and permeability, but perhaps the most important is that which deals with its penetration by bacteria. It has been shown that water conveyed in pipes made of this asbestos-cement product will not be contaminated by any noxious organisms which may be present in the soil in which the pipes have been embedded.

Fineness of Cement.

It has been known for some time that the ultimate strength of a mixture of cement and sand depends to a large extent upon the fineness of the cement particles. The importance of this is evidenced by the fact that a fineness test has been embodied in the British Engineering Standard Specification for cements. Further, it has been suggested in many quarters that the essential property of the modern rapid-hardening cements bears a very close relation to their quality of fineness. It therefore is both interesting and useful to find that there has been considerable recent research upon the fineness of cement, and that certain measurable results have been obtained, and one or two illustrations, given quite briefly, will indicate to what extent the work has so far proceeded.

For example, it has been shown that, if a sample of cement particles be measured under a microscope, the diameter of the largest particle is as much as 80 times as that of the smallest or finest cement flour particles. It has been suggested that this variation in size may be due to either inefficiency of grinding apparatus, or even the nature of the cement clinker which issues from the reverberatory furnace.

Consequently, the clinker from some of these furnaces has been examined very carefully, and it has been found that, in the main, this can be divided roughly into two parts; the one soft and easily grindable, the other very much harder and which, after grinding, leaves the mill in very much coarser particles. These, examined separately, have been found to show most marked physical and chemical differences.

Thus, a most wonderful and remarkable discovery is the great difference that exists in the tensile strength of a sand mortar when the different sized particles are used. For example, a 1 : 3 sand mortar, made of the coarse cement particles, *i.e.*, those which have a diameter of 0.005 centimetre and above, showed at the end of seven days a tensile strength of from 85 to 100 lb. per sq. in.; while that made up of the fine flour particles, *i.e.*, those with a diameter of 0.002 centimetre and below, gave at the same age, a tensile strength of from 370 to 430 lb. per sq. in.

A further interesting point was that, by the extra grinding or pulverising of the coarser particles and then using them to make a 1 : 3 sand mortar, the tensile strength at seven days was increased to from 213 to 228 lb. per sq. in., which is only about half the strength of that given by the use of the original fine flour cement particles. This seems, then, a very fair verification of the belief that the tensile strength increases with the fineness of the cement particles, and in connection with this it is stated, as a result of experimental evidence, that of ordinary cements about one-third is of 0.005 centimetre or more in diameter.

Coloured Cements.

The subject of coloured cements is very much in evidence just at present and, with continued research, there is no doubt that in time there will be a complete range from which those who wish to carry out any decorative scheme will be able to select just what they want, and be sure that it will possess all the requisite properties of a good cement. So far, thoroughly reliable cements of buff and red colours are on the market, and recent research with a chromate of barium seems to indicate that the various shades of yellow will soon be obtainable.

Bulkometer.

In connection with the recent work on cement and concrete it is understood that there is an interesting piece of apparatus, called the "bulkometer." Many of us will probably look out for it, as well as a demonstration of its uses, at the Building Trades Exhibition. It seems that it has 3 scales indicating the following mixes, viz., 1 : 3, 1 : 2½ : 5, and 1 : 2 : 4. By it, we are told, one is able to determine from the appropriate scale what is the volume of the sand-part required for the composition of a true mix.

Glass and Flies.

Members of the medical profession are continually warning us of the dangers to health that are disseminated by the ordinary house fly. We are told that we do not treat the matter sufficiently seriously. It may not be generally known that certain branches of the building profession, at any rate, have the matter under serious consideration, and that a certain amount of research work is proceeding in order to discover what relation exists between flies and coloured glass. So far, certain very pertinent facts have been discovered and, though perhaps most of us would object to having the windows of our living-rooms glazed other than by the prevailing methods, yet where our food supply is concerned we probably should be in complete agreement with what is being done.

For example, it has been discovered that coloured glass is a deterrent to house flies, that flies seem to prefer white light, and will avoid reds and yellows, while blues and greens are not so effective in this respect. Also it is reported that a certain jam-making firm found that flies did not enter warehouses and corridors which had been glazed with yellow glass. There seems no reason why this knowledge should not be extended to the building of abattoirs and meat markets with the suggestion that they should be glazed with blue or yellow glass.

Again, to carry research a step further, two rooms were roofed with glass—the one with a rolled plate glass, and the other with a proprietary glass giving a bluish-green light. It was found that fewer flies collected under the latter, also that the bluish-green proprietary glass did not transmit the infra-red rays of the spectrum, and, therefore, the temperature was lower than under the rolled plate glass.

When discussing glass, one is almost bound to introduce the subject of "ultra-violet" rays. For some time it has been known that a certain type of glass will allow these health-giving rays to pass through it, while ordinary or common window glass will not do so. Unfortunately, the cost was too prohibitive to allow of its introduction for general glazing purposes, but recent research has now, accord-

ing to many advertisements, succeeded in producing in a glass possessing the same properties at a much more reasonable price.

Acoustics.

Although in an article or two of this kind one is only able to hint at the magnitude of the modern research work leading to progress in the building trade, it is felt that, in conclusion, mention should be made of some of the work on acoustics. It has long been felt that something should be done to eliminate, or at least reduce, the effects of noise and vibration, such as that arising from water services, lifts, and the machinery concerned with heating, ventilating, and lighting, etc. This comes under the heading of sound-proofing, and, at the Building Trades Exhibition, there is a building devoted to the demonstration of what recent research has done in this direction.

PRE-CAST CONCRETE FOR BUILDERS

It is the purpose of these notes to describe in simple language the methods by which any builder can make for his own use, without the aid of expensive plant, some of the common units which, either in stone or pre-cast concrete, form part of almost every description of building. Due to their lower cost, pre-cast concrete units are now used to an increasing extent in all classes of building, but it is not proposed here to deal with the manufacture of architectural cast stone; this is better left to the specialists whose long experience enables them to minimise crazing and discoloration, and other troubles that beset the beginner, and to produce a stone that to the eye is indistinguishable from any of the dressed stones commonly used in building. These notes deal principally with units such as sills, door-steps and hoods, lintels, strings, copings, fence posts, flags, quarries, and such-like units of the type used in smaller property, and with a little care such units of suitable quality are easily made by ordinary labour. An advantage of this class of work is that it can be done under cover, and not necessarily on the building site, so that men may be employed on it during bad weather, when outdoor work would not be practicable.

Materials.

First, a note on materials. These consist of the usual concrete materials, but it is essential that the sand and shingle should be clean. For the articles dealt with, the shingle should not exceed ½ in. Reinforcement where necessary should consist of mild steel rods to British Standard Specification.

If it is desired to match natural stone, it is necessary to use either the same stone crushed to the required size or a sand of the same colour. Thus, Leighton Buzzard sand will make a stone the same colour as Portland stone; certain yellow sands will make stone to match sandstones; red sands will match red sandstones, Mansfield stone, etc.; silica sands will match granite; and so on. In cases where white or light-coloured stones are to be matched, white Portland cement must be used. For coloured stones, mineral oxides must be ground with the cement until it is the same shade as the aggregate. But for the ordinary concrete finish pit shingle and common sand and ordinary grey Portland cement are all that are necessary.

Moulds.

Good moulds are essential. Wood is the most suitable material for mould-making, deal or pitch pine being the easiest to work. All the working faces of the moulds should be smooth, for any roughness will be reproduced on the stone. The wood must be free from knots that may fall while the mould is in use, and free from "shakes" that would result in a stone not true to shape. A good mould will make dozens of stones, so a little time spent in making it will be well repaid. Before use the working faces should be rubbed with mould oil or paraffin to prevent the concrete adhering; a coat of distemper will serve the same purpose, while sheets of thin paper are often used in the moulds with the same object and soaked off the stone when it is turned out. Each time it is used the mould should be cleaned of all adhering concrete, or it will set hard and be difficult to remove.

The principal object of the mould-maker is to make a mould with a minimum number of loose parts, but which, at the same time, can be readily taken away from the stone when the latter is made. Nails should not be used to secure the parts together, because the driving and withdrawal of nails each time a mould is assembled and dismantled will soon make it useless. Screws are to be preferred to nails, but the same objection holds good although in a less degree. Bolts and wing nuts are undoubtedly the best means of fixing moulds that are to be used repeatedly, and this is the method shown in different forms in the accompanying sketches.

Moulds should be accurate to size and shape, but if more than one board is used to form a mould bottom or side, the joint should not be closed. When in contact with wet concrete there is a tendency for wood to swell, with the result that the boards would twist if they had no room to expand. A space of about a sixteenth-of-an-inch should be left between boards to allow for this swelling. Before using the moulds it is advisable to soak them in water for a few hours, so that any distortion will appear, and can be remedied before they are used.

Curing.

The articles should be left in their moulds until they can be removed without damage. No definite period can be laid down between placing the concrete and stripping the moulds, as the time the concrete takes to harden depends on several factors, such as the quality of the cement, the consistency of the concrete, and weather conditions. Under normal conditions, however, the moulds can be stripped from products made with semi-dry concrete immediately they are made, leaving the product on its pallet to harden. If a wetter consistency is used it should be possible to remove the mould within 24 hours of casting if it is not necessary to turn the mould over to do so; in the latter case the mould should not be stripped until 48 hours after placing the concrete. If rapid-hardening Portland cement is used the concrete should be kept moist and protected from frost, hot sun, or drying winds for four days after casting, and the products may be used six days after manufacture. If ordinary Portland cement is used the products should be protected and watered for six days and not used until fourteen days after manufacture.

Paving Flags.

Dealing first with the simplest shapes, Fig. 1 shows a mould for a plain rectangular slab, such as a paving flag. It consists of four pieces of 3 in. by 2 in. timber joined as a frame with the same inside dimensions as the flag required, and a base made of floor-boarding screwed to battens; the thickness of the frame would depend upon the desired thickness of the slab. Two wood chocks are screwed to the base at each end to prevent the frame moving when it is in position; sideways movement is prevented by the clamps knocked on to the edges, which also prevent the frame from lifting from the base when the concrete is placed. Ordinary joiners' clamps would be equally suitable for this purpose. The frame could, of course, be secured to the base from the underside, but if this were done it would be necessary to turn the mould over before the flag could be released. The advantage of fixing the frame to the base by readily removable devices such as clamps is that the frame can be released and used on another base before the concrete is hard. If a semi-dry mix is used the frame can be lifted off immediately the concrete has been rammed, while if a wet mix is used it can be removed the following day. Thus this method of fixing the frame and base is economical in mould costs, for with semi-dry mixes only one frame is necessary for making any number of flags. The bottom of the mould should be covered with sheet metal if a smooth surface is required on one face. If a key is required on one face for bedding purposes, this may be obtained by scratching the top of the concrete with a stick before it has hardened. In order to allow the mould frame to be lifted off easily, the wood sides should be slightly bevelled; this will form a slightly bevelled edge to the flag, and although this would not be allowed for street paving work, it does not matter for garden paths or paved areas around houses; in any case, it will not be noticeable when the flags are bedded down.

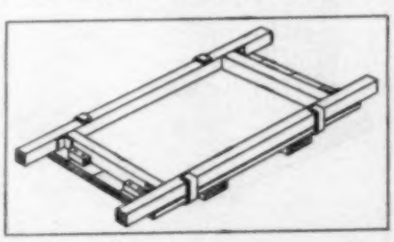


Fig. 1

A useful size for flags is 2 ft. by 2 ft. 6 in. by 2 in. or 2½ in. thick. To cover an area of 10 yards super, about one ton of flags will be required if they are 2 in. thick, while a ton of flags 2½ in. thick will cover about 8 yards super. A good mix for flags is 1 part of Portland cement to 3 parts of granite or gravel from ¾ in. down. No reinforcement is necessary.

Garden Edging.

A simple mould for garden edging or lawn surrounds is shown in Fig. 2. For these units, which are generally 1½ in. thick, time and labour can be saved by making several at a time, and the mould is designed with this object in view. This mould is shown with projecting and shaped runners; these are useful if the mould is to be carried from the place where it is filled to allow the concrete to harden elsewhere. In this mould all four sides are loose, as are the dividers, but a simple method is shown of holding all the pieces securely in position while the concrete is placed. The ends are housed into the sides, and the ends of the dividers are housed into the mould ends. Wedges driven between the mould sides and wood chocks screwed to the base hold the mould together at the bottom, while a notched strip of wood holds the top together. If rounded tops are required to the edging, pieces of shaped wood are placed on the bottom of the mould between the dividers as shown in the section; these are also loose pieces. Any other shape can be formed on the top of the edging by suitably shaped strips placed in the mould.

If a vee joint is required on the ends of the edging, triangular-shaped pieces of wood are screwed to one mould end and the other mould-end grooved, so that each section of edging will join with the next.

To release the edging, knock out the wedges and remove the notched strip from the top of the mould. The sides and ends will then come away, followed by the edging and the dividers. When removing the edging they should be lifted off on the shaped strips, and the wood then gently eased away from the concrete; this will minimise broken tops on the edging.

For this class of work only sand and cement should be used. A good proportion is 1 part of Portland cement to 3½ parts of sand. If red sand is used, and the cement coloured with a little red oxide, a red coloured edging will be obtained, while varying shades of buff

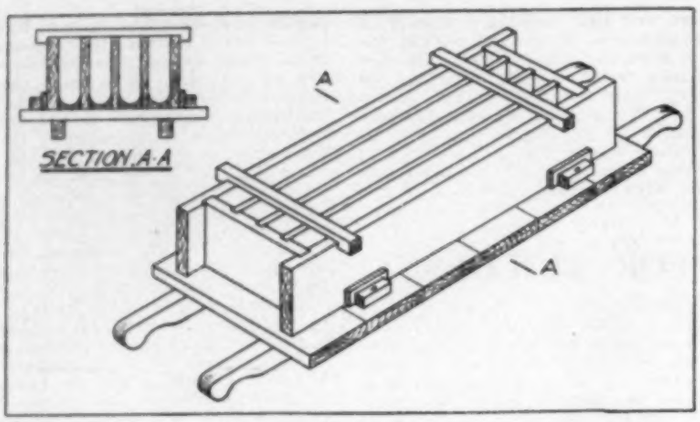


FIG. 2.

and yellow are obtainable by using yellow sand and colouring the cement with a little yellow ochre.

Floor Tiles.

Tiles for scullery floors, etc., are easily made in concrete, and if red oxide of iron is added in the proportion of 10 per cent. of the weight of cement, the colour will closely approximate that of the usual red clay tile. These tiles usually measure 6 in. by 6 in. by ½ in. thick, and are laid in the same manner as clay tiles. Factory-made concrete tiles are usually produced by hydraulic presses, and very rapid outputs are obtained, but tiles with excellent wearing properties may be made in hand moulds.

As usually a considerable number of tiles are required, it is desirable to use a mould that can be stripped and used again as soon as the concrete has been placed, and to keep down labour costs it must be simple to use. Such a mould is shown in Fig. 3. It consists of a frame made of four pieces of wood ½ in. wide by about ⅞ in. thick, with two corners rigidly fixed with iron straps. The other two corners are fastened with hasps or other simple fastenings. After the concrete has been placed, the two fastenings are undone and the halves of the mould withdrawn from the tile by a lateral movement in the directions of the fixed corners. By withdrawing the mould sides away from the tile in this manner the edges of the concrete will not be damaged as might happen if the frame were fixed at all four corners and lifted off.

A mix in the proportion of one part of Portland cement to three parts coarse sand is suitable. Only sufficient gauging water should be used to obtain a mortar that will ball when squeezed in the hand; if too much water is used it will not be possible to remove the mould immediately. The mortar must be thoroughly rammed into the mould and smoothed off with a trowel.

It will be noted that there is no base to this mould. This is because such products, when only a hundred or two are made at a time, are best made on a level bench, which forms the bottom of the mould. If such a bench is not available, smooth floorboards will serve the same purpose. The bench-top or boards must be thoroughly oiled before the tiles are made, in order to prevent them adhering, with consequent breakages when they are removed. The tiles should be thoroughly watered the day after they are made, and provided they are not exposed to heat or drying winds, no further watering should be necessary.

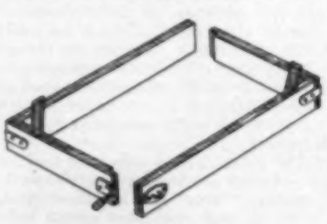


FIG. 3.

It may be mentioned that if, after the concrete has been rammed into the mould, a little water is sprinkled on the top and a trowel is passed over the surface three or four times, a "polish" will result; the degree of polish is not so high as on a glazed earthenware tile, but the face of the concrete tile will be quite smooth and will have a certain amount of glaze which can be increased by the application of ordinary wax floor polish. If this treatment is adopted it would be necessary to omit the strengtheners across two corners as shown on the sketch, as these would interfere with the working of the trowel.

Quoins.

Corner blocks in the form of quoins are easily made in a simple mould such as that shown in plan in Fig. 4. It consists of a

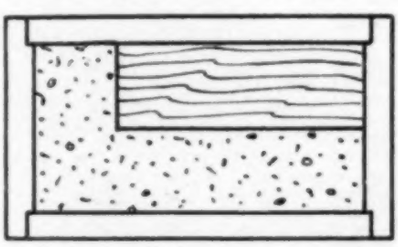


FIG. 4.

bottomless wooden box fixed at the corners with thumbscrews or bolts through projecting ends as in Fig. 5. If only a few blocks are wanted, ordinary wood screws may be used. The dimensions of the box correspond to the size of the quoin, and in one corner is placed a block of wood to leave sufficient thickness for the two sides of the quoin, this block need not be fixed, as the concrete will hold it in place. The mould is stripped by first taking away the box and then easing out the blocking-piece. The box may be placed and filled on a level bench, or a baseboard may be used as in Fig. 1; usually in the case of a heavy block such as a quoin

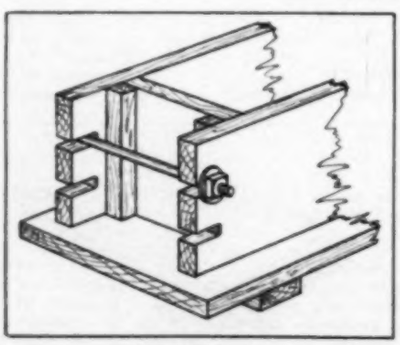


FIG. 5.

there is no need to fix the mould to the base if it is made with semi-dry concrete.

For ordinary housing work a mix of four parts of ½-in. shingle to two parts of sand to one part of Portland cement will give sufficient strength, but for exposed situations a 3½ : 1½ : 1 mix can be relied upon to be weatherproof if sound materials and workmanship are used; for a weather-resisting stone it is advisable to use a plastic mix, as it is easier to obtain maximum density with plastic concrete than with a semi-dry concrete. No reinforcement is necessary in these blocks.

(To be continued.)

BUILDING RESEARCH STATION PAMPHLETS

FROM a pamphlet on the subject of "The Function of Standard Specifications in Modern Building Practice," issued by the Building Research Station, we take the following extracts:—

The problem arises of how to disseminate quickly to the building industry the findings of the science laboratory. One way is by means of the Standard Specification, and it is the purpose of this note to draw attention to the Standard Specification as a vital necessity in modern building practice. . . . The time is coming when the person responsible for prescribing the materials to be used in a building will be forced more and more to abandon the task of judging their suitability by eye, previous acquaintance, and literature of doubtful authenticity. Certainly it will remain his responsibilty to decide upon the material to be used, because he knows best exactly what it is required to do, how it is to look, and how long it is expected to stand up to the conditions to which it will be subjected. But he will need to have the assistance of the scientist, through the convenient medium of a Standard Specification extended to cover many of the materials he now specifies almost solely on account of previous experience of them or because of a good reputation which they have rightly or wrongly acquired. He should find with an increase in the number of Standard Specifications for building materials that much of a difficult responsibility is lifted from him. This responsibility he has had, in his professional capacity, to bear unaided simply because there has been no convenient means of conveying to him the relief which others in a different sphere can provide. . . .

The tests included in a Standard Specification ought to provide a means of determining those properties of a building material which have a bearing upon its ability to fulfil its function when properly incorporated in the building. The results of such tests obtainable in the short period of, say, a week or less, are required to indicate the probable behaviour of the material in actual use over a long period of years. It is in the devising of suitable tests that scientific knowledge is indispensable. To appreciate the significance of the properties of the material when determined or to translate the effect of the deteriorating factors which will be operative in Nature into experimental treatment which can be applied with understanding in the laboratory or in the field often means intensive research; moreover, an intimate knowledge of the methods of using the material and, in the case of artificial products, its manufacture is entailed. . . . Needless to say, no Standard Specification should be looked upon as permanently stable. With the accumulation of scientific data and with the development of materials frequent revision may be necessary. Nevertheless, the position at any one time should be such that a user may take it for granted that the current Standard Specification for any material embodies the latest scientific information relating thereto and covers manufacturing developments to date, and that a material which passes the standard set by it may be relied upon to be

without features which are known to militate against its successful use. In other words, it will provide a material, not necessarily the very best obtainable, but of a reasonable standard as judged by the user, the producer and the scientist together.

Not only is the Standard Specification of benefit to the user. It forms also a very helpful guide to the producer in that it gives him a clear indication of what is demanded of his product and of the directions in which attempts at improvement should be made. Further, it would seem that the institution and wider employment of adequate Standard Specifications must constitute a prerequisite in any rationalisation scheme in connection with the output of building products. A general demand that materials of unvariable properties and of well-defined grade be supplied to specification should help to shape a common interest for manufacturers and render it easier for them to co-operate in formulating common rules and practice.

From another pamphlet entitled "What a Science of Building Means," we take the following :—

Until recently, the building industry was based almost entirely on experience gained from series of trials and errors. Much of this experience has been recorded, but much has been lost, and a great deal exists merely as the spiritual property of the individual. The application of science to building is in accord with the times. It implies the co-ordination of the wealth of experience and the study of the reasons why traditional methods and materials have achieved success, associated with the investigation of problems that arise regarding the properties of materials and their behaviour in use, the principles of design, and the general efficiency of the completed building. Its aim is to establish a scientific technique as a basis for progressive efficiency, and incidentally, to provide practical help in overcoming immediate difficulties.

It must not be imagined that scientific research will lead straightaway to desired results. Although occasionally, by some happy chance, a problem may be solved by a flash of inspiration, more often it requires patient and laborious investigation by a team of workers over a period of years. The important difference between the traditional and the scientific methods does not lie so much in the time that elapses before the completion of a particular task, but in the fact that, whereas the success attained by a traditional method applies only to an individual case, the scientific method represents a wide and searching study of all the factors involved, and the success ultimately gained has general application and ready adaptability to new conditions. The combination of the scientific and traditional methods holds most promise for rapid advance.

Building science is in no sense, therefore, an obscure academic cult. It connotes instead a concentration towards an industrial objective of all forms of knowledge, both scientific and practical, and all methods of investigation, including laboratory experimentation and full-scale trial.

The pamphlet then deals with the subject under the four following heads : (1) weathering, (2) materials, (3) structures and strength of materials, (4) efficiency of buildings from the standpoint of the user.

MODERN BUILDING MATERIALS.—II

By J. R. TAYLOR.

White Portland Cement.

One of the successes of Portland cement manufacturers is the production of a Portland cement, white in colour. This is a matter of considerable importance, as it permits the use of a true Portland cement in the manufacture of some few types of cast or reconstructed stone at one time restricted to lime on account of the difficulty experienced in getting the correct shade of colour with grey cement. Starting from white, it is possible to get the greater delicacy of tone required for these purposes. As it is a true Portland cement, it is to be expected that it will show the same resistance to wear and weather as the grey, and this will have a bearing on the manufacture of other building materials into which cement is introduced, such as floor, roof and wall tiles and the like.

Ready-Mixed Plasters.

One of the difficulties the architect has had to contend with has been the great variation in quality and colour in sand. This is one of the reasons that has precluded him from taking full advantage of the upward trend in cementitious values in various materials. Of recent years some manufacturers have endeavoured to help him out by sending their material ready mixed in suitable proportions of high-class sands of the desired colours. This is distinctly a move in the right direction and one that it is desirable to extend. As these pure, clean and graded sands permit the use of leaner mortars the additional cost of carriage is considerably offset when compared with local sand of unknown or doubtful quality. There can be little doubt that the time is close at hand when all sand that comes on to buildings controlled by the architect will be certificated and classified, and failure on the score of want of quality will thus be entirely obviated.

Partition Blocks.

Thin partition blocks were originally introduced more because of their lightness than for economy of space. They set the architect free to divide up his first floor with less regard to the plan of the ground floor. One of the earliest forms consisted of a hearting of reeds on which the plaster was floated, and as it contained the principal of reinforcement (the reeds) it was fairly strong and very light. Its fault (lessened, but not eradicated in the newer forms) was that it did not provide a secure fixing for articles it was desired to attach to it. The concrete partition block has been familiar to the trade for more than fifty years. Next, I believe, came the hollow tile. This was a modification of a similar structure used in fireproof floors and has the merit of marked resistance to fire. Recently manufacturers have advanced by incorporating coatings calculated to be fireproof and soundproof. This is an interesting development, which, when perfected and proved, is likely to have far-reaching results.

Many attempts have been made from time to time to use up the by-products of the joinery works: sawdust, chippings, and shavings. These all have uses on a small scale, but most works have to pay for carting large quantities to the tips or destructors. One or two attempts to utilise them have given promise, but not so markedly as to reduce this waste.

Fireproof Floors.

Never a year passes without some additional patents being granted for new forms of fireproof floors. Many of them are ingenious in the extreme. So it has always been in the building trade. Materials that are free to all to use without let or hindrance will always find favour against articles subject to patent and royalty. Those forms of fireproof construction that do not involve the use of formwork and centering are, however, undoubtedly making headway and have now invaded the pitched roof.

A similar form has been successful in the shape of flue blocks to carry off the fumes from gas stoves and to afford ventilation where other means of heating are adopted. They make for economy in space and certainty of direction, and do not require a breast to carry them.

Fireproof Fittings.

For city building the tendency is to use wood in ever-lessening quantities. Pressed steel cabinets, shelving, hook rails; metal windows, grilles, partitions and general furnishings—these are only a few of the fittings from which woodwork is being driven. This is reflected in the continuous fall in timber prices during the last few years. Tubular steel scaffoldings surrounding steel-framed buildings are now even more frequent than the old forest of timber round a slowly-growing brick and stone building of a previous generation.

It is possible that we shall soon see even our domestic buildings run up very lightly in skeleton; just a wall plate on a few very light stanchions. This will allow of either a temporary or a permanent roof being put on to enable the work to proceed in all but very bad weather, and may solve the pressing problem of lost time.

It has to be admitted that these methods are going to reduce the cost of upkeep and maintenance, if only for the reason that our old enemy, dry rot, cannot make a meal of a steel partition.

I am, however, doubtful about the pitched fireproof roof. It appears to me that we are within measurable distance of the time when the aeronautical engineer will have solved the problem of hover and absolutely vertical rise and drop. This must lead to the principal entrance being on the roof.

Wall Tiles.

I had thought that finality had been almost reached as regards decoration by means of wall tiles. Years ago we enlisted metal, glass, and many other materials. But the manufacturers press ever onwards, and the beauty of some modern productions must be seen to be believed. Glass with a glowing tube embedded in it or placed behind it is giving a new feature in decoration, and further developments are to be expected. I love the old Dutch blue on white tile, but must confess that our home manufacturers have surpassed everything that has been done before.

Some of the synthetic wall linings for bathrooms and the like, though neither marble nor tile, have advantages all their own, particularly in the reduction of the number of joints and stout resistance to hard knocks when properly fixed. They also make dainty and serviceable bath enclosures.

Jointless Floorings.

New patent floorings are constantly being brought forward. They are too numerous to mention individually. The perfect floor will combine extreme resistance to wear without any tendency towards slipperiness. The manufacturers have gone a long way towards the attainment of this ideal.

Empire Timbers.

The movement towards Empire-grown timbers is one that should command architects' support. It is true that until heavier stocks are carried at closely distributed centres a certain amount of difficulty is bound to be experienced. Some of these woods are very beautiful and most have advantages peculiar to themselves.

Pavement Lights.

An invention that promises an improvement in our public pavements is the substitution of reinforced concrete for iron in the frames holding the glass prisms of pavement lights. It is early yet to say whether this device will maintain the advantages claimed for it, but it should be noted as comparatively modern.

Design.

But the most marked feature about modern fittings is that at long last the manufacturers have fully awakened to the value of architectural training in the preparation of the design. Seldom do we find those offensive productions in which the draughtsman jumbled up the styles until it was by no means uncommon to find cast-iron columns painted to represent stone with slender Ionic shafts that would inevitably fail if of real stone, set on bases of different style and no proportion, and crowned with something resembling Byzantine capitals. It is true that there is still much to be done and that many materials are tortured into entirely unsuitable shapes (such shapes as the material represented could not assume and are obvious shams), but as these old patterns are broken up and discarded we are gradually emerging from this nightmare.

(To be continued.)

"THE BUILDER" DEBATE

XXXII.—POSTAL ADVERTISEMENTS.

SIR,—Some of your correspondents may wish to persuade themselves that the deluge of advertising matter sent by almost every post to architects will help firms in obtaining orders, but I think the reverse is the case. To confuse this "fussiness" with good business is an entire mistake. My experience is that some of the most "pushing" firms in this direction are exceedingly dilatory and slow in executing an actual order given them. They will tell one that they are making the article in question but it will not be on the market for a few months, or the terms mentioned will have in this case to be varied. If a breakage occurs it cannot be replaced promptly, and so on. Your correspondent asks why should we object to postal advertisement and not to that in the technical papers? The reason is obvious. It is not wise to leave letters unopened, but if one is looking for a special trade product one usually can find it in the advertisement columns of a paper, and there is no attempt made to camouflage it as a private business letter In any case, the firm which sends me an advertising letter is doing the best thing to induce me to have nothing to do with its goods. If they would have the honesty to put "advertisement" on the envelope it would save trouble and ensure a quicker journey to the waiting waste-paper basket.

ARCHITECT.

SIR,—"Positive's" views are one-sided; he should go out into the world and learn how others try to modernise business with new ideas and new saleable articles. Many patents, new mechanical inventions, and even new kinds of bricks, have resulted in benefit to mankind. How would "Positive" advertise goods? By newspaper advertisements, magazine advertisements, professional record advertisements, or would he call on the world's offices, or write direct to firms interested in such goods? The architects, with their closed private sanctum and door attendants, will not see or hear from a new name or firm. Please leave the builder out of the question.

The world in general should be weighed up to see in practice if "Positive" is not too hard on the modern way of bringing out ideas by advertisements, whether by visits or open letter. Suppose we take (1) our American cousins; (2) the Russian people; (3) ourselves. The Americans have improved, and are improving, in intelligence by their persevering ways of advertising their wares. Open circulars arrive, and at what a cost? Calculate what money has been spent in a circular. I may not require the article, but I know it is useful. I find the wastepaper basket for the circular, but I remember the article advertised.

Russian tyranny and restricted laws have kept her people with ideas tied down. There are no new things to advertise, and the people are not allowed to advertise. Scientific minds are either lost to the world or have developed in America. The Russians live on what America advertises to them. The Americans advise the Russian people by open letter of the goods they have for sale.

In England, what shall a new firm do? Wait for the A.R.I.B.A. to call? That will never happen. The architect does not want to see the new building article, unless the manufacturer advertises heavily to make the architect's client ask for such improvements. He won't be bothered with the halfpenny-post circular, which tells of modern goods. For a new firm to call upon him is an outrage on the peace of the profession. His attendant will not encourage such visitors, in case they might enlighten the principal and result in a few minutes' pleasant business talk. It is no use to seek an appointment by letter. "Positive" receives circulars connected with the building trade, yet he finds they do not interest him. Surely the circular must appeal to some members of the profession. If it does not appeal to him, yet it might appeal to others. Banking houses advertise, circularise, and seek new clients. A general store buyer receives an open-letter circular relating to a new soap, a new design of collar, or a miniature pocket rule for architects and builders; would "Positive" consider that circular a nuisance? Builders wish to know the latest markets of the building trade; they have the time to interview, to write for details, and even to read open circulars. They are ready to learn of all modern ideas and new firms, with their competitive goods.

Many members of the architectural profession are at fault and are unbusinesslike. They are too conservative and irritable. I do not wish to condemn all, yet the system of the profession is out of gear, and should be constructed on modern lines. With regard, for instance, to the acceptance of the cheapest tender. Let the architect study the cost. How can a builder live if the architect accepts the lowest tender, much below the real value? Then, to "squeeze" the builder, many specified firms are given with the cost of certain items, without allowance of the builder's profit. The builder could give the work to a modern new firm who would supply similar goods at a lower price, yet he dare not. The final end of that building, after the builder has had his wage, etc., forces the builder to liquidate—to the loss of the sub-contractors. Everyone suffers. Take the instance of a new church. The tendered price accepted was below the architect's and quantity surveyor's total. The builder could not finish the last items of the church owing to the heavy loss entailed; he became bankrupt, with many sub-contractors, some specified firms, without a penny on account. This system of the profession is bad throughout, and is getting worse.

Perhaps I have exceeded the scope of the debate, but such matters are of more interest to the readers of *The Builder* than "Positive's" useless ideas. His tabulated irritations are sad ones. If there were fewer circulars, there would be fewer postmen and sorters, and the loss to the Postmaster-General would require an increase in the postage cost. "Positive" would pay twopence for his letters and threepence for receipts. That would be a lesson to him to read each letter (open or closed), and think. Correspondence should not be overlooked, open or closed. For what purpose is the professional register formed? Does "Positive" want to know his co-architect's name and address? The professional gazette is for anyone requiring the services of an architect. "Positive" dislikes the wasting of the time of sorting clerks. Would he prefer them to be on the dole? Money makes money. If we spend money, even on open letters, it helps to employ sorting clerks. The earning population spend their money (even sorting clerks), and want houses, churches, libraries, schools for their children—all to the architect's benefit and that of the builder and his staff. It seems that "Positive" is of the old cult, and has not a good word for these modern times and the modern brain, the manufacturer or his representative, or even the paltry halfpenny postage. "Positive" advises a by-law to stop dealing with "circular firms." Go ahead, "Positive"; form the by-law, circularise your professional brethren, and see how many replies you get—if architects can find time to attend to such ideas.

IRCO.

SIR,—Whilst it is generally recognised that the two forms of advertising are necessary, such condemnation of the one as "Positive" puts forward is bordering on the ridiculous. All articles are not suitable for advertising in the way he suggests, quite apart from the cost. Many of his arguments are theoretical. Allow us to give an example from experience.

Some time ago we had a certain machine which appealed to builders, but entailed considerable expense for demonstrations. Before a sale was made, it had to be demonstrated. According to "Positive's" argument, the only way of making known this product was to advertise in trade publications; but think what this meant to us in demonstration costs!

We were in honour bound by the advertisement, and under an obligation to send demonstrators to several parts of the country at one time. The morning's post may have brought several inquiries—one from Glasgow, one from Dublin, one from London—which would mean that three demonstrators would have to be sent, and possibly hotel fees incurred, and the ultimate result—possibly no sales.

Contrast the postal method of advertising, and you quickly realise that you can concentrate upon any particular locality, limiting your action to that particular area, and in the above case limiting the number of demonstrators to a reasonable figure as regards cost. This is not the case with a national trade paper, which may be all right for some things, but not for all.

Possibly "Positive" would suggest representatives calling upon all builders in a particular area, but to do this quickly would mean far more representatives than the product would warrant, and in nine cases out of ten the builder would not be immediately interested. The quicker method of the postal circular gives a far greater potentiality, and results often in sufficient inquiries forthcoming immediately to warrant keeping on the demonstrators, for, their number being lessened, not so many inquiries are needed as when advertising nationally in the Press.

When talking of waste, "Positive" seems to have overlooked the question of waste circulation, for it is generally recognised that all the readers of a particular trade paper will not be interested in the article advertised, and, again, users of the article will not require the goods every week; but, further, one is limited, for an advertisement must of necessity be short. It is not always possible to take full pages, and there is no blinking the fact that, in spite of the suggestion of "Positive" in his last paragraph, that one should deduct the cost of postal circulars from the price of goods and advertise them at the reduced price in trade and technical journals, such action would mean that the cost of the advertising would be put upon the article in lieu of the cost of circularising.

Advertising costs are included in the price of goods, and whilst it is perfectly true to say that advertising reduces, by the number of extra sales that it secures, the proportion allocated to each article, it is simply misrepresenting the facts to imply otherwise, whether it is directly or indirectly done, or whether it is disguised under the terms "goodwill" or "overhead expenses."

The truth lies in a middle course of supporting both forms of making known. If a builder is requiring a particular class of goods badly enough, he will not mind in what manner such goods are introduced to him so long as they are satisfactory, and, as far as we are concerned, we shall continue to use both forms.

R. STANLEY SMITH.

Charing Cross Bridge.

By the closing date for schemes for suggestions for Charing Cross improvements between 40 and 50 schemes had been received. Each will be dealt with strictly on its merits by the advisory committee, whose duty it is to prepare an agreed scheme for presentation to the County Council when it reassembles on October 21. The advisory committee will meet again at the beginning of next month, and will begin the work of examining the schemes.

THE BUILDING EXHIBITION

The opening ceremony of the 16th Building Trades Exhibition was performed on Wednesday, September 17, by the Right Hon. Viscount Burnham, G.C.M.G., M.A., Hon.-F.R.I.B.A., under the chairmanship of Sir Banister Fletcher, F.S.A., P.R.I.B.A.

The Chairman said it gave him great pleasure to assist in the opening proceedings of the Exhibition, and more so because it carried his mind back thirty-five years, when his father, Professor Banister Fletcher, occupied the same position. His father was one of those who believed in a bi-annual building trades exhibition, and Mr. Montgomery, the moving spirit in that great enterprise, persuaded his father to assist him in getting architects and builders to believe in this exhibition. Architects and builders thirty-five years ago were not quite so progressive as they were at the present time. Thirty-five years ago a building trades exhibition did not at first attract the best people in the building crafts, but there was no doubt that by Mr. Greville Montgomery's enterprise this bi-annual exhibition had come to stay, and would be a success as long as it was carried out in the excellent way the present exhibition had been organised. In his opinion its value was of the utmost importance. It kept architects up to date in the various types of building materials and novel inventions, and it really brought together architects, builders and manufacturers, so that they could specify the wares exhibited if they thought they were good for the purpose. It was essentially good from an educational point of view. Apart from the architect, who had to keep himself *au fait* with the different types of material, it was helpful to the architectural student. At no time in history had architectural education been better or more efficiently conducted than under the auspices of the R.I.B.A. at the present time. He could conceive nothing better for an architectural student than to spend two or three days at this exhibition. Another year he was going to ask Mr. Montgomery to allow architectural students to be present during the time the buildings were being erected, because he thought they would be able to learn and see in a tabloid form how a building was constructed. The R.I.B.A. had recognised Mr. Montgomery's services to the building crafts by electing him an Honorary Associate of the Institute.

The Rt. Hon. Viscount Burnham said he esteemed it a great compliment to be asked to open the largest and most important Building exhibition that had ever been held here or anywhere else. What they had seen in the exhibition was sufficient to prove its outstanding value, not only to the building trade but to the country in general. He considered that the exhibits were a great education from a national point of view. It was difficult to say the debt the building industry owed to Mr. Greville Montgomery and his brother, who were the pioneers of this exhibition in 1895. At that time there were only 87 exhibits as compared with 400 to-day. That was a great step, for which they deserved not only the gratitude of the industry, but the gratitude of the country. At a time like this the exhibition had an especial importance. The whole of England was under reconstruction, and they had to see that reconstruction meant regeneration, not degeneration. That, of course, lay with the architects and the building industry, and it was profoundly true that there was no architecture without good building. According to a report issued by the London County Council, 243,500 houses had been erected in the ten years from 1920 to 1929 in greater London by the different agencies—the L.C.C., the City Corporation and the Metropolitan Boroughs and the other authorities outside the L.C.C but within the Metropolitan Police area. He was glad to say that 45 per

The Opening Ceremony.

cent. of that total was due not to private enterprise, but to public benevolence—rates and taxes, grants in aid and local charges. Building was the fundamental art and craft of our civilisation. It arose from necessity, providing for man and woman to live together, first in safety and after in decency. That was the beginning of things. It seemed to him that what they had to do now was to reconcile the spirit of the age with the spirit of the ages. In England they could not do without tradition—it was the very atmosphere they breathed. This country was soaked in tradition, therefore to ignore tradition was as foolish as it was useless. What they had to do was to combine congruity of grace with congruity of service, and congruity of service must be taken into account. When they went outside London they saw that little or no attention was being paid to the beauty of the small house, but in the bigger buildings there was still a spirit of enterprise which spoke well for the possibilities, but there should be some real connection between the buildings that were put up and the quarter of the town in which they were erected. He did not think in this country they could ignore the quality and character of the neighbourhood in which a building was put up. Having regard to that, he was not out to decry originality where it could be properly put in or its effect in what he might call communal life. A few words which came to his mind he thought could be applied to the building trade: "We have certain work to do for our bread and that is to be done strenuously; other work to be done for our delight, and that is to be done heartily; neither is to be done by halves and shifts, but with a will, and what is not worth this effort is not to be done at all."

Mr. A. H. B. Colls, F.I.O.B. (President, L.M.B.A.), proposing a vote of thanks to Lord Burnham, said it seemed to him appropriate that Lord Burnham should have been asked to open this exhibition, because it was a well-known fact that he was keenly interested in architecture and building. It seemed to him that Lord Burnham had two aims in life; the first, he thought, was benevolence, and the second public service. In these days the building trade wanted an added fillip, and he thought that the present exhibition would be instrumental in doing that, and if they could in any way alleviate the question of unemployment it would be a good thing, because, after all, the building trade was second to none. In addition the architectural profession had never stood higher than to-day, and the builders were better equipped than ever to undertake and carry out their work efficiently and well.

Mr. Thomas Barron (President, N.F.B.T.O.), seconding the vote of thanks, said he felt highly honoured in being asked to take part in the proceedings because of the great body of workers he had the honour of representing. Lord Burnham had been chairman of the Building Trades Employment Committee since its inception, and he could assure him that he had the entire confidence of the operative members of the committee in London on that exchange. There were magnificent buildings in London that no architect, builder nor operative need be ashamed of. They could congratulate themselves that their industry was allied to the spirit of the age. The operatives felt a pride in the industry to which they belonged, but he was afraid they had been somewhat neglected in the general scheme of things; they desired to have co-operation in industry; they desired to have their full share in the work and in the reward. He asked those who were in the industry not to be too alarmed about the reports in the Press about the great difficulties in the industry. They had a habit in the trade of "firing at long range," but he could assure them that on both sides of the building industry there was a very great deal of common sense. Just at the moment they desired a little more generosity on the part of one side.

The vote of thanks was heartily accorded.

Viscount Burnham briefly returned thanks.

Mr. H. Greville Montgomery then proposed a vote of thanks to the chairman for presiding. This was seconded by the Rt. Hon. Lord Riddell, and the chairman suitably responded.

Following is a list of those who attended the opening ceremony :—

Lord Riddell.
Sir John Simpson, F.R.I.B.A.
Sir Francis Goodenough.
Sir Frank W. Wills, F.R.I.B.A.
Sir Henry Tanner, C.B., F.R.I.B.A.
Sir A. Brumwell Thomas, F.R.I.B.A.
Sir Thomas Bethell.
Sir Walter Lawrence.
Sir J. Walker Smith.
Sir Harry Courthope-Munroe, K.C.
Sir Richard Allison, F.R.I.B.A.
Dr. R. E. Stradling, Director, Building Research Station.
Lt.-Col. W. French, City of Guilds Institute.
Lt.-Col. J. Mitchell Moncrieff, President, Institution of Structural Engineers.
And Messrs.
D'Arcy Addison, Agent General for Tasmania.
W. W. Grierson, President, Institution of Civil Engineers.
W. T. Curtis, F.R.I.B.A.
G. Topham Forrest, F.R.I.B.A.
E. Guy Dawber, A.R.A.
A. Cannan.
W. W. Burton.
Walter Tapper, F.R.I.B.A.
Albion T. Snell.
R. F. Maitland, O.B.E., M.I.Struct.E.
Herbert J. Lawrence.
C. J. Bennett.
G. Russell.
W. H. Wright.
C. Rowley.
F. H. Finlaison.
Millett Lane.
R. L. Roberts.
G. A. T. Middleton.
W. E. Collier.
R. Coppock.
Hugh Reynolds.
Herbert Shepherd, F.R.I.B.A.
H. V. Lanchester, F.R.I.B.A.
R. Douglas Wells, F.R.I.B.A.
Edward Maufe, M.A., F.R.I.B.A.
Wm. Grellier, F.R.I.B.A.
H. T. Buckland, F.R.I.B.A.
W. T. Plume, Hon. A.R.I.B.A.
George A. Lansdown, J.P., F.R.I.B.A.
Howard Robertson, F.R.I.B.A.
Percival M. Fraser, F.R.I.B.A.
C. M. Hadfield, F.R.I.B.A.
Frederick Chatterton, F.R.I.B.A.
J. Arthur Smith, F.R.I.B.A.
W. B. Davidge, F.R.I.B.A.
C. J. Fawcett Martindale, A.R.I.B.A.
Christian C. T. Doll, F.R.I.B.A.
Louis Ambler, F.R.I.B.A.
W. E. Riley, F.R.I.B.A.
Geoffrey C. Wilson, F.R.I.B.A.
Lionel U. Grace, F.R.I.B.A.
C. H. Strange, F.R.I.B.A.
R. Stephen Ayling, F.R.I.B.A.
Horace Farquharson, F.R.I.B.A.
Edward J. Partridge F.R.I.B.A.
G. J. Skipper, F.R.I.B.A.
G. W. Buchanan.
Martin Briggs.
W. Harding Thompson, F.R.I.B.A.
V. Leslie Nash, A.R.I.B.A.
Gordon Bird.
Brig.-General W. J. Butler.
J. R. Heatley.
A. H. Scott.
Horace Boot, M.I.C.E.
Thomas Wallis.
Rt. Hon. John Robertson,
R. Phillip Brooks.
Graham Dawbarn, M.A., A.R.I.B.A.
Percival C. Blow, A.R.I.B.A.
Sydney Tatchell, F.R.I.B.A.
L. L. Dussault, F.R.I.B.A.
Joseph Emberton, A.R.I.B.A.
G. Wornum, F.R.I.B.A.
Matthew J. Dawson, F.R.I.B.A.
L. H. Bucknell, F.R.I.B.A.
N. D. Sheffield, F.R.I.B.A.
Charles Holden, F.R.I.B.A.
C. F. A. Voysey, F.R.I.B.A.
G. Mackenzie Trench, F.R.I.B.A.
Walter Cave, F.R.I.B.A.
E. Maxwell Fry, A.R.I.B.A.
H. P. Burke Downing F.R.I.B.A.
A. Trystan Edwards, A.R.I.B.A.
Basil Oliver, F.R.I.B.A.
R. A. Cooksey, A.R.I.B.A.
H. V. Milnes Emerson, A.R.I.B.A.
Claude Taylor, Department of Overseas Trade.
L. Southwood Jones.
G. Mackenzie Harvey.
George J. Newson, A.R.S.I.
H. B. Kerr.
A. Seymour Reeves.
B. W. Perks.
Fred E. Wallis.
Alfred Haworth.
Alderman F. B. Bending.
A. J. Brickwell.
M. G. Bland, A.M.I.C.E.
R. A. Rix.
J. A. Kendrick, City and Guilds Institute.
John Scott Galbraith.
A. E. Symes.
Frank West, M.I.Mech.E.
James Carroll.
Harry Neal.
W. F. Gibson.
F. W. Stratton, F.I.C.E.
B. S. Townroe.
J. F. Greenwood.
Walter W. Webster, F.I.O.B.
J. H. Barker.
Justus Eck, M.A., M.I.E.E.
S. P. Purkis-Ginn.
Leslie Shingleton.
Herbert H. Young.
Ellis Marsland.
W. J. Rudderham.
Alfred Bosson, F.R.I.B.A.
C. Herbert Bedells, F.S.I.
P. M. Stratton.
Albion T. Snell, M.I.C.E., M.I.E.E.
Horace Boot, M.I.C.E.
Thomas Wallis, F.R.I.B.A., M.I.STRUCT.E.
E. Berry Webber, A.R.I.B.A.
P. N. Hasluck.
H. B. Creswell, F.R.I.B.A.
A. G. White.
A. B. Knapp-Fisher, F.R.I.B.A.
R. A. Rix, A.R.I.B.A.
C. H. Biddulph-Pinchard, F.R.I.B.A.
T. C. Yates, A.R.I.B.A.
H. B. Creswell, F.R.I.B.A.
Max Clarke, F.R.I.B.A.
A. Needham Wilson, A.R.I.B.A.
Henry Tanner, F.R.I.B.A.
Hubert Lidbetter, F.R.I.B.A.
Francis Jones, F.R.I.B.A.
R. T. Longden, F.R.I.B.A.
T. Lawrence Dale, F.R.I.B.A.
J. H. Elder Duncan.
Tom Jones and T. Jones, Jnr.
Alexander Goddard, C.B.E.
F. E. Towndrow, A.R.I.B.A.
J. Croad, F.I.O.B.
C. Ernest Elcock, F.R.I.B.A.
C. McArthur Butler.
Alec Smithers, F.R.I.B.A.
Alan E. Munby, M.A., F.R.I.B.A.
George Brittain.
And
Miss Ruth Ellis, F.R.I.B.A.

LIST OF FIXTURES.

Below is a list of the fixtures arranged :—

WEDNESDAY, September 17.
Opening Function.

THURSDAY, September 18.
Southern Counties Federation of Building Trades Employers.

SATURDAY, September 20.
Essex Society of Architects. Association of Architects, Surveyors and Technical Assistants. Debate on "Official Architecture." London Builders' Foremen's Association.

MONDAY, September 22.
Ceramic Society. British Refractories Research Association.

TUESDAY, September 23.
Ceramic Society. London Master Builders' Association. Visit of the Lord Mayor and Lady Mayoress.

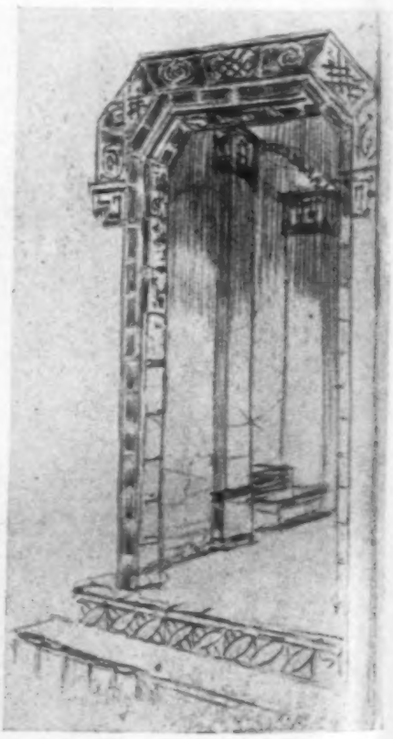
WEDNESDAY, September 24.
Ceramic Society. Institute of Clayworkers. National Federation of Clay Industries. Ball, Evening. National Federation of Master Painters and Decorators of England and Wales.

THURSDAY, September 25.
Institution of Sanitary Engineers.

FRIDAY, September 26.
Institution of Structural Engineers.

SATURDAY, September 27.
Incorporated Clerks of Works Association of Great Britain. Incorporated British Institute of Certified Carpenters.

In the reception room of the Incorporated Association of Architects and Surveyors there is an exhibition of pictures by Mr. A. C. Conrade.



Stand of Messrs. Carter & Co., Ltd.

WHAT TO SEE AT OLYMPIA

A BRIEF REVIEW OF THE EXHIBITION

WHAT is without question the finest building trade exhibition ever held was opened by Lord Burnham at Olympia on Wednesday. The success of this year's Building Trades Exhibition lies not in that it is bigger than ever previously, or more representative, which in fact it is; it is due, rather, to a realisation on the part of exhibitors that a building exhibition need not be a dull exhibition, and that it is sometimes as difficult to weigh up the merits of building goods by inspecting samples as to choose a suit by looking at a pattern of cloth. The exhibitors have arrived at this conclusion by no means unaided; in fact, much of the credit is due to the organisers. That their efforts have borne fruit is at once apparent upon entering the main hall. The building industry has made more than adequate use for stand design of the peculiar advantages it possesses. It is clearly seen that architects have had a hand in a number of the designs.

To sum up, this year's exhibition gains over previous ones in that it has become evident that good wares are none the worse for being decently displayed. The show is one that would, and probably will, interest the layman for its novelties alone, although it is not, nor is intended to be, a "popular" exhibition. The stands offer a variety that is quite charming. A replica of an old Kentish oast-house rubs shoulders with the latest stand-creation of Le Corbusier. Fine paints and enamels only gain by being displayed applied to a representation of a warship. Everything that can be demonstrated is demonstrated, under conditions approximating to those of practice.

The Perils of Noise.

One of the most interesting exhibits is the "Silent House," to be found in the gallery. The problem of combating noise is one which is overripe for solution: this display advances the cause a considerably long way along the road. "The Silent House" consists of a number of rooms *en suite*, in the sound-proofing of which ten firms have amalgamated under the direction of Mr. A. Trystan Edwards, A.R.I.B.A. Each room has on either side a small compartment in which are carried out a series of sound-tests which may be applied to the partition walls. Visitors can thus judge of the sound-proofing qualities of specially constructed partitions, ceilings and floors of insulating bricks and blocks, thatchboard, fibreboard, millboard, plywood and other substances. Some well-known manufacturers of soundproof material are not represented, and each firm exhibiting is, in the main, responsible for one room. Apart from sound-proofing interest, the decorations, furnishings, etc., are worth seeing. These have all been designed by the architect. Two exterior scenes used in one of the rooms are painted by Mr. Christopher Jacobs, a son of W. W. Jacobs. One of the rooms contains a very praiseworthy effort to solve the problem of keeping out street noises, while allowing ventilation. This window is shaped like a solid wedge, and is fitted with absorbent baffle bars which allow free ventilation of air, but break up noise.

Novelties at a building exhibition are few and far between. The whole principle behind building is slow evolution. Radical discoveries are rarely made, but it is a good sign that there are few products which have not considerable advances to show for the thirty months that have now elapsed since the last Exhibition.

There has been a definite trend in the last eighteen months towards the use of coloured concrete for roads. The Cement Marketing Company's stand shows "Colorcrete" for this purpose in two tints, pink and buff. The material has been used on streets for housing schemes where it has been desired to get away from the drab motor-road of to-day, and we also learn that various county surveyors have used it on sections of through road. Its pleasant shade, from our experience, goes a long way towards relieving the monotony of the modern grease-covered road.

A further development has been in the direction of a pure white cement. Used according to the makers' directions, white cement for rendering is a very valuable decorative ally of the architect. It is to be regretted that some architects and builders do not use it according to specification, and we have even heard of cases where the neat cement has been mixed with water into a paste and applied like whitewash over greasy brick. Two brands of white cement are exhibited at Olympia.

Cast stone is another product that has frequently been mishandled. The Empire Hall at Olympia itself is standing testimony to its use and appearance when properly handled. Cast stone has not entirely achieved the success predicted by reason again of the human element. Dirty aggregates have been used, in some cases through accident and in others for the sake of cheapness, and the reputation of the product has suffered as a consequence. In these days, when stone-workers are scarce, there should be a great future for cast stone. Anyone interested in the subject should visit the Adamite Company's stand and see there the "Spirit of the Rocks," the Doyle-Jones statue cast in Cornish white granite and "Atlas White." This will be remembered as one of the successes of the 1924 Exhibition, and has stood in the open since that time. It is now re-exhibited, and architects who examine it will, remembering that it is cast stone, have much food for thought. They should not leave this stand without looking at the remarkable series of stair treads and risers which illustrate the non-slipping, wear-resisting qualities of "Alundum" stair and floor surfaces. The toll of accidents through slipping, in schools alone, in the year is very considerable. Architects owe it to their clients, no less than to the community, to do everything in their power to make stairs, corridors, and floors safe underfoot.

One of the most interesting stands for those who admire the modernistic note is the Venesta exhibit. This has been specially designed for the firm by M. Le Corbusier, and is the first work of its kind that he has done in England. He has planned it to show various grades of plywood, and especially the armoured plywood, "Plymax." This material has definite advantages for interior decorative work. A new product for house fittings, electric-light furniture, door-handles, etc., is on view in the gallery. A device that will interest plasterers is a webbed lath, a product that, at a cursory glance, would seem to have advantages over the old type of lath. By this system the laths are wired together at equal intervals, and are then rolled up until ready for use. To hang, the end is nailed to the joists above the uprights, and every fourth lath nailed to the upright. Considerable rigidity is obtained. The edges of each lath, in addition, are ripped by a special machine into webs which acts as a bonding for the plaster. It is claimed for this system that it costs less in time and in plaster.

Electric Hand-Tools.

Electric hand-tools, consisting of an electric motor and flexible shaft, to which can be attached a variety of interchangeable tools, are to be found exhibited. These are a recent introduction to the building trade, and their uses for working marble, cast stone, and terrazzo, and for tooling, chamfering, etc., are considerable. A decorative wood preservative is another exhibit which it is claimed will penetrate to the heart of the wood, thereby preventing decay and simultaneously colouring the surface, displaying the grain of the wood.

In days such as these the architect takes every advantage of installing devices which genuinely are labour-saving. On the Oetens stand in the gallery is a cabinet-made appliance for connecting the kitchen and the dining-room. It assists in eliminating smell and noise, and it is impossible to see from one room to the other at any time. Further uses are that it can be used as a carving-table and also acts as a hot case to keep food warm. It is made in a variety of woods and supplied ready for fitting. Those who are faced with the problem of laying waterproof, wear-resisting floors in factories and warehouses, should seek details of a new cement which combines the qualities of a hardener and waterproofer.

A floor clip which is used for anchoring joists and board floors to fireproof floors, without the necessity for employing a fill or of plugging the floor, should be of considerable value to architects. This is the "Bull-Dog" floor clip, which, in a comparatively short space of time, has been specified for a large number of jobs. Also well worth looking into is a liquid, "Redalon" by name, which is used, in one grade, for exposing the aggregate on the face of poured concrete buildings, and in the other for obtaining an efficient key for bonding cement or plaster renderings to concrete without the need for hacking.

Every architect and builder is aware by this time of the invaluable work done by the Building Research Station at Watford. The Station aims at assisting by scientific methods of attack, the improvement of existing knowledge of materials. The exhibit is designed to afford an idea of the scope of the problems studied at the station, and every one connected with the building industry should hasten to acquaint himself with the Department's work.

While far from exhausting the fresh developments in the industry, space forbids further references. Enough, we hope, has been indicated of the attractions of the exhibition to induce every member of the architectural profession and the allied building trades to visit Olympia for himself. It will prove a valuable investment. One stand further we shall mention—that of the Council for the Preservation of Rural England. Here are exhibited photographs of good and bad examples of building development, advertisements and petrol stations, etc. The Council looks in no small measure to architects and builders for help in combating the gradual spoliation of England: may they not look in vain.

"THE BUILDER" STANDS.

As usual, we are represented at the exhibition by two stands, F, 119 in the Annexe, and M, 226 in Empire Hall. On these are displayed, in addition to copies of *The Builder*, special exhibition numbers and recent issues of "Architecture," dealing with a variety of special subjects such as "Shop Fronts," "Schools," "Cottages" and "Garages," a comprehensive selection of publications and text-books devoted to architecture and building, including "Old London Illustrated," "Estimating for Builders," "Law Relating to Dilapidations and Waste," "Law Relating to Fixtures," "Everyday Science for Architects and Builders," "Powers of the Architect," "The Master Builders' Handbook," "Experiments in Fuel Consumption," etc. Particular attention is directed to two new books specially produced for the exhibition, one on "Designs for Houses," these varying in cost from £550 to £3,000, and the other on "Bungalows of To-day," showing structures costing from £500 to £2,000. Both books contain many examples of executed work by noted architects, plans and descriptive notes, together with foot cube cost, being included in each case. There is also on our F 119 stand an exhibition of models specially made for *The Builder*, and illuminated by electricity. These include "Old London Bridge," "Mill Lock Arch," "London's First Waterworks," "Old St. Paul's," "House with Three Bedrooms," etc.

NOTICES OF EXHIBITS

We gave in our last issue a plan and complete list of exhibitors at the Building Exhibition. Below we give detailed notices of some of the principal exhibits. The letter which appears after each firm's name refers to the Row and the figures to the stand. Where the stand is in the Gallery it is marked [G] and indication is given as to whether it is in the Bays or Wallspace. Further notices will be given next week.

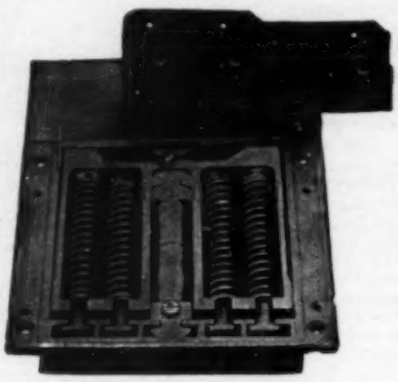
The Adamite Co., Ltd.—F, 110.

The problem of rendering floor and stair surfaces non-slipping is one that, at some time or other, confronts every architect. The stairs of public buildings; factory and warehouse floors; the corridors and floors of schools, technical institutions and hospitals; the floors and curbs of swimming baths or pools; the halls and passages of private houses: these are some of the architectural opportunities that continually present themselves for treatment. At Stand 110, in Row F, anyone can see non-slipping products of the Norton Company—"Alundum" non-slipping and wear-resistant floor tiles, and non-slipping aggregates for incorporation as aggregate with terrazzo, granolithic and other concrete stair and floor surfaces. A series of some fifteen stair treads and risers, built on the Stand, shows the observer the wide choice of colour, texture and form in "Alundum" floor and stair surfaces that he has at his command. Here the architect can, for himself, see the variations of colour and form, test the non-slipping quality, and inspect testimony as to its resistance to wear He should be deeply interested.

"The Spirit of the Rocks" on the Adamite Stand.

Robert Adams.—D, 52.

A comprehensive selection of their patent door and window fittings is shown by this firm, including the latest patterns of their "Victor" door springs—for swing doors and single-action doors, with improved check action, and for every possible requirement, whether for fixing into the floor or overhead. Special attention is invited to the "Victor" spring hinges with shallow boxes and self-contained silent check cylinders. Such types are very suitable for many modern buildings. A special super-type of this class of hinge is shown, designed to suit metal doors of half a ton in weight. Other exhibits are working models of window gearing and fanlight openers, panic bolts and casement fittings in a variety of patterns which are also adapted to meet all possible requirements. In the category of door furniture and locks and the whole range of builders' brassfoundry, the display is attractive in its numerous examples of fittings of excellent quality and design. Sash balances, metal casements, weather



The Adams "Slave" Door Spring.

bars, passable hopper cheeks, reversible windows and a number of other interesting articles are also included in the exhibit.

Anglo-Colonial Trading Corporation, Ltd.—S, 291.

This stand, designed by a London architect, has been built with the products for which this firm are the sole distributors. Their "Sheetrock" gypsum wall and ceiling boards are applied to show the use of these large flat non-warping and fire-resisting sheets as a means of lining instead of lath and plaster. The method of satisfactorily joining the sheets together is demonstrated on the stand. The surface of these boards may be decorated immediately the boards are fixed, either by distemper, paint or wallpapers. The walls of this section are decorated with "Textone" plastic paint. The ceiling of this section is also in "Sheetrock." Visitors to the stand will be interested to see how gypsum boards can be bent to shape. One section is devoted to "Donnacona" insulating wall and ceiling boards, a product of Price Bros., Ltd., of Quebec, Canada, and used for insulation against heat and cold, and also for sound absorption. This is a spruce-fibre board of ½ in. thickness, which has many uses. The problem of cutting out noise from buildings is always with architects, and the sound-proof room will interest many visitors. It is constructed of the wall-board materials mentioned above and "Riverbank" eel-grass quilted blanket.

Asbestos Cement Building Products, Ltd.—G, 137.

Here are displayed examples of the application of asbestos-cement roofing and flooring materials and of the interior and exterior decorative sheets. The roof surfaces of this stand show Turners' "Trafford" tiles, "Everite" "Bigsix" corrugated sheets, "Poilite" pantiles, "Turnall" hand-made plain tiles, and "Serval" asbestos-cement slates. The outer walls are covered with "Everite" standard corrugated sheeting and "Poilite" flat sheets with half-timbered effects. The end gables are carried out in "Poilite" rough-cast sheets. As a display of alternatives to other forms of roofings this exhibit is most comprehensive. Being shown in the four cubicles are "Serval" asbestos felt for roofing, etc., moulded bath panels, walls covered with "Turnall" stipple-glaze decorated sheets, and cubicle walls decorated with "Poilite."

E. P. Barrus, Ltd.—Bay, 77a [G.].

The Building Exhibition always provides a comprehensive display of plant, tools and equipment, and this year's show appears to be particularly noteworthy in this respect. The stand of Messrs. Barrus is well worthy of close inspection on this account, providing as it does an interesting exhibition of tools for a variety of purposes. Special attention may be directed to the display of "Stanley" electric drills, electric screwdrivers, electric hammers, electric saws, "Disston" saws and files, "Cleveland" twist drills, reamers, etc., "Stanley" woodworking tools, "Porter" bolt clippers, shear cutters, etc., and "Carter" routers and shapers. There is also on view a display of "Stanley" butts and hinges and builders' hardware.

Blundell, Spence and Co., Ltd.—E, 88.

Paints, colours, varnishes, enamels and all decorators' materials are featured on this stand, and special prominence is given to "Pammel" petrifying liquid enamel, the use of which has widely extended during the present year. Liquid stainers are also on view, and the ease with which these can be used for tinting will be of interest to decorators. The stand is painted with Flat "Japonette," a flat oil paint drying with a matt washable surface, and Oil-Bound Water Paint. In addition there is an interesting collection of gums and other raw materials used in the paint industry. The variety of the firm's paints, enamels, varnishes and other decorators' materials is so great that it is not possible to enumerate them all, but full particulars will be gladly given by the representatives in attendance on the stand. Technical experts are in attendance for the convenience of callers requiring special advice.

A. Byrd and Co.—D, 59.

Half of this stand is devoted to a display of concrete slabs, etc., illustrating various treatments with ordinary and coloured cement grout, renderings, etc., made with "Tricosal" products, which show conclusively the extremely hard dustless surface obtainable in addition to the positive waterproofing of cement concrete and mortar. Practical demonstrations are given showing the sealing of water bursts and rendering of percolating surfaces with "Tricosal" products, and a special machine gives a practical demonstration of the resistance to wear of treated concrete surfaces as compared with untreated slabs. The other half of the stand shows samples of all standard sections of "Metaform" straight wall forms, including a typical concrete floor set up with main beams, columns, etc., and scenic back cloth. Other models demonstrate the use of "Metaforms" on single-faced shuttering, and there are special forms for moulding concrete roads and curbs, *in situ*.

Bryce, White and Co., Ltd.—H, 145.

All classes of high quality woodwork find place on this stand. One of the chief exhibits is the "Castle Brand" door, made of thoroughly well-seasoned Swedish redwood, mortised, tenoned and wedged, and representing excellent value. The doors are available in a very wide range of patterns for both interior and exterior use, and are available from stock in all the standard sizes. Other door exhibits are "Red Cone Brand," in Western pine (specially selected for the beauty of its grain and freedom from knots and defects), and Columbian pine, well made and in a range of attractive designs. The visitors may also see a variety of mouldings, oak flooring, garage doors and gates, kitchen dressers, chimney-pieces, turnery, trellis, matchings and joinery, etc.

Caxton Floors, Ltd.—N, 239.

The special feature of this exhibit is an interesting collection of scale models and full-size examples of "Caxton" patent construction in combination with other building specialities applicable to flooring work. The principal feature of "Caxton" floors, which are laid *in situ*, is the parallel rows of hollow burnt clay tiles with reinforced concrete ribs

in between. The design of the floor embodies the principle and theory of the rolled steel joist, which are here applied to reinforced concrete. The construction of the floor affords a saving in depth over conventional methods, and other points of note are that its use ensures effective insulation of heat and noise, and that in all ordinary circumstances of strenuous service vibration of machinery has no effect upon them. It is also to be noted that with these floors maximum strength is maintained, despite the great reduction of the dead weight—approximately 30 to 40 per cent.

Cayless Bros (Battersea).—H, 158; and Bay, 86 [G].

Builders' plant of a high order is shown here. Worthy of special notice is the "1930 model" telescopic ladder, with improved, double-wrot, drop lock that has a splendid record for security, springcase pulleys that admit of prompt release of the ropes when single units are required, and rubber running wheels. The specimens on show are interesting, in that they demonstrate the employment of silver spruce in the construction of the stiles. The lightness and tensile strength of this timber permits of a stock range of ladders up to the equivalent of 95-rung builders' ladder. What appears to be a most satisfactory combination has been evolved by a method of double recessing the cleft oak and hickory rungs. A stud track dispenses with the usual method of grooving the stiles. Further exhibits of value are the ranges of builders' ladders; towers (of special use to the builder engaged in cinema renovations and similar work); trucks; truck wheels; and every kind of tool and plant.

Cement Marketing Company, Ltd.—F, 114.

Here the visitor will be able to see many of the recent developments in the concrete industry. Since the last Building Trades Exhibition, "Snowcrete," the only British white Portland cement, and "Colorcrete," the rapid-hardening coloured Portland cement, have been placed on the market, and many exhibits will be displayed demonstrating their artistic possibilities. Tests on "Ferrocrete," the rapid-hardening Portland cement, and "Blue Circle," will be carried out at frequent intervals, and representatives will be present to deal with inquiries regarding these products, or with "Lightning" brand aluminous, "Hydralime," etc.

Colthurst, Symons and Co., Ltd.—H, 152.

The products of this firm are housed in one of the most attractive stands in the exhibition—a pavilion roofed with green Spanish tiles whose bold rolls impart an air of considerable distinction. Demonstrated also is the firm's patent "Secure" improved Roman tile. The system on which this tile is laid ensures that the bottoms are held down during the severest gale. It is particularly suitable for Mansard and vertical tiling. Also shown are a variety of patterns of "Italian," "Paragon," and "Acmé" tiles—all hand-made and in various finishes and glazes. Bricks of all varieties are also featured.

Croggon and Co., Ltd.—C, 40.

The aim at this stand has been to make it a practical example of constructional steelwork, and its value to the visitor has been supplemented by photographs of garages, factories, cinema studios, hay-sheds, etc. Fencing is another line in which this firm specialise, and they make a comprehensive show of their "Ceeco" gates and fencing. Many examples of wrought-iron and wire fences (including tennis-court surrounds) are displayed, and succeed in giving the visitor a good idea of their appearance when erected. The tanks, cisterns and cylinders shown are selections from standard sizes, special sizes being made up in a few days. Other steel products of interest are sashes, barrows, reinforcing rods, etc., and the whole exhibit demonstrates well the variety of goods offered by the firm.

Drew, Clark and Co.—K, 194.

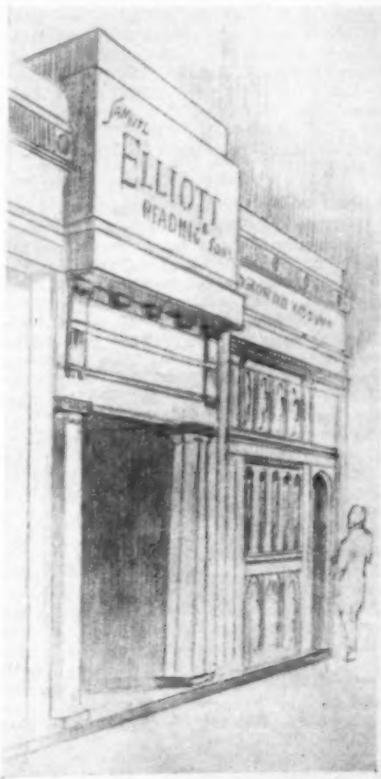
Rapidity and convenience in the erection and removal of scaffolding, combined with the assurance of complete safety, are indispensable conditions in modern construction, and within recent years specialist firms have produced a great variety of excellent, labour-saving equipment to aid the contractor in his undertakings. On this stand there is a comprehensive display of such equipment, including the well-tested "Rap-Rig" scaffolding, which, consisting as it does of interchangeable units easily adjusted to different heights and widths, provides a ready and efficient scaffold for all building purposes. A new product of particular interest, showing for the first time, is a telescopic folding mobile staging for painters and decorators (provisionally patented). Other exhibits include an excellent range of ladders of various types, trestles, platform steps, lattice steps, lean-to ladders, travelling ladders, telescopic scaffold trestles, wheeled ladders, trucks, barrows, etc.

Educational Supply Association, Ltd.—E, 86.

This exhibit shows a number of adaptations of the "Esavian" folding and sliding movements for windows, partitions and doors. The movements are suitable for attaching to windows as low as 2 ft. 6 in. in height, and are also shown attached to doors 19 ft. 6 in. high, and have been fitted to doors for aeroplane sheds 32 ft. high. They can also be used for covering openings of any width, having been fitted to aeroplane sheds 100 ft. wide. We learn that the ordinary folding window exhibited by this firm has been fitted to a large number of open-air schools in and around London and other parts of the British Isles. The glazed "Esavian" folding and sliding loggia doors that are fitted on the stand are so arranged that they fold flat against the wall in the same plane as the door when extended, and this principle can be applied to the internal folding and sliding partitions.

Samuel Elliott and Sons (Reading), Ltd.—J. 179.

This stand has been designed for the purposes of containing different classes of this firm's manufactures, and has necessarily resulted in an architectural treatment subservient to this purpose. The central lobby shows various styles of panelling, and its exterior panels are fitted with exhibits of photographs and specimens of Messrs. Elliott's interlocking rail system and panelling in oak and other colonial woods. There are also specimens of work in hand, notably a reproduction of an old doorway to be fixed at the new police offices in Old Jewry. Other floorings and panellings are in yellow pine and elm, and an interesting exhibit is of old ceiling beams in oak recovered from the bed of the Thames when Caversham Bridge was rebuilt.



[Messrs. Samuel Elliott & Sons' Stand.

Fernden Fencing and Construction Co., Ltd.—C, 27.

This firm are the sole makers of the "Fernden" cleft chestnut pale fencing, of which they are showing large quantities. Other proprietary brands, including Fernden "Wovenoak" and "Rylink" fencing, and also types of gates, garden houses, pavilions, garages, and other portable buildings, are other exhibits displayed by this firm.

Field and Palmer, Ltd.—Wall, 44 [G].

That very necessary and important member, the dampcourse, is a primary feature of this stand. A prominent exhibit is the "Fipaled," which is a dampcourse of lead and bitumen made in 3 ft. long plates with a continuous joint. Another is a natural bitumen, non-fibrous dampcourse, the "All-Bitumen," while a cheaper style is the "Ecodura," also in bitumen. The popular "Lead-Seal" type is also shown, this being a bitumen and lead dampcourse, the lead being sandwiched between a layer of "All-Bitumen" and a layer of hessing dampcourse. Expansion jointing, composite asphalt, and composite shingled roofing complete an interesting show.

J. Freeman, Sons and Co., Ltd.—G, 134.

Messrs. J. Freeman Sons & Co. have a very attractive stand, which takes the form of a small house, decorated entirely, both inside and out, with "Cementone" products. These are for a variety of uses, colouring, hardening and waterproofing concrete, plaster, brick, stone, etc., both by incorporation and surface application. The upper part of the exterior is finished with "Cementone" No. 9 waterproof "Stoneface" composition, illustrating the usefulness of this waterproofing and decorative product. The interior of the house is lined with asbestos-cement, S.X. board, etc., finished in various shades of "Cementone" No. 6 waterproof decorative flat, and glaze finish, also "Cementone" No. 11 "Art Plastic," for use in cinemas, theatres, cafés, and other types of public buildings nowadays. The floor is of jointless composition, coloured with various "Cementone" No. 1 colours; and the whole of the roofing tiles are also "Cementone." The house, in short, illustrates in a practical manner the use of these products, from foundations to roof.

Frigidaire, Ltd.—O, 257.

Three up-to-date kitchens on this stand show the advances made by refrigeration. One is a small kitchenette; another an average sized kitchen for a four- or five-roomed flat; and the third, a slightly larger one suitable for a house of moderate size. Each one contains a Frigidaire, and is planned to show how easily Frigidaire can be included in kitchen designs, and how little space it requires. In the kitchenette the cabinet is ingeniously fitted into the lower half of an "Easiwork" dresser! Perhaps the most practical advantage of including refrigeration of this kind, apart from reasons of health and comfort, is that in most cases no separate larder accommodation is necessary. Besides the three kitchens, Messrs. Frigidaire, Ltd., are showing a full range of their household models. Each one is fitted with the cold control and hydrator.

J. Gliksten and Son, Ltd.—E, 92.

The exhibit on this stand embodies the specialities of the firm's group of companies, viz., J. Gliksten and Son, Ltd. (hardwood specialists to the building trades), The National Plywood Corporation, Ltd. (plywood specialists to the building trades), and Glik-

Stand of Messrs. J. Gliksten & Son, Ltd.

sten Doors, Ltd. (importers and specialists in Columbian pine and Swedish redwood doors, also sole distributors for Great Britain and Ireland of "B.P." all-British insulating board). These companies exhibit numerous specimens of hardwood, plywood, doors and insulating board, all of which have a special interest for architects and builders. The firm carries large and comprehensive stocks of these materials, and is able to fulfil orders promptly—an important point in these days, when time is so often "the essence of the contract."

Haskins' (E. Pollard and Co., Ltd.).—G. 144.

During the past year these associated firms have instituted research and experimental work in their shutter factory, which has resulted in many improvements both in shutter design and construction. These have been incorporated in the new "Interlocking" shutters installed on the stand, and visitors are given every opportunity of testing the shutter in action and examining for themselves the advantages of "Firola" and "Rolador" shutters. These fireproof shutters are very necessary for hotels, stores, etc., and where openings have to be closed in the event of fire. A further exhibit concerns the revival in the use of finely wrought art metalwork. Visitors interested in metal work will find much to interest and admire in the specimens covering all types of bronze work, stainless steel, etc. Fine joinery and furniture complete the exhibit.

Haywards, Ltd.—O, 259.

Pavement lights are prominently exhibited here. Special attention is drawn to lenses of Haywards' "W" glass, which has been produced in collaboration with expert authorities, and is definitely guaranteed to resist "fledding" for long periods. Internal fire-resisting stairs are another speciality that attracts attention. They are suitable for stores, offices, theatres, public buildings, etc., the design being adapted to meet varying conditions, permitting the use of different surface finishes to treads and risers, and providing for exceedingly quick and economical erection. A number of examples of metal windows are exhibited, including Haywards' "Hospital" window, which is divided into two opening portions, pivoted, balanced and interlocked. This has important advantages for institutional work. A fresh development in collapsible gates is shown in Haywards' "Midbar" gate, and examples of other Haywards' products include architectural metalwork, "Reform" glazing, and lanterns, lead lights, "Copperlite" fire-resisting and ornamental glazing, sheet metalwork, etc.

Interoven Stove Co., Ltd.—L, 223.

Exhibits to which special attention may be drawn are the following: The 22-in. super-interoven, the firm's latest production for moderate requirements, now taking the place of the original 20-in. stove. It has a large oven and roomy hotplate; the "Pascall" side oven grate, which has the advantages of a lower oven which is instantly convertible to hotplate space, and the absence of all dust-collecting ornamentation; the "Cheer-ee-o" open fire stove, which can be kept alight day and night at minimum cost, resulting in only a small amount of ash in the ashes pan; "Bewty" fires, strong, heavy and durable barless fire fronts that will fit practically any existing fire grate; and the "Cheerio" domestic boiler, a wrot-steel independent boiler suitable for connecting to a 35-gallon tank, and with an output of 35,000 B.T.U's. It provides an open fire and a good hotplate for cooking.

G. Johnson Bros.—C, 41.

Architectural metalwork, including shop-front detail, is attractively shown on this stand. Items to which special attention may be directed are metal mouldings, drawn on hardwood cores, used in the manufacture of frames, sashes and doors, the wood being sheathed with bronze. The firm makes mouldings and supplies castings, plain and ornamental, to cover the joists and angles, so that the builder is able to work these together as easily as he does his wood front. The firm is prepared to undertake the making of shop-fronts, which will be fitted together at their works and dismantled ready for re-erection by the local builders. Models of such fronts are shown with various forms of cast enrichment. An exhibit of castings, free from sand-holes, shows a high standard of workmanship. The application of ceramic enamel to bronze in opaque and iridescent colours is shown by means of various letters used on name-plates for banks and commercial buildings, the letters being cast with recessed faces and filled with enamel fired into the letter. Sheet bronze metal also is engraved and filled with enamel. A practical demonstration of the art of engraving is given daily.

Kerner-Greenwood and Co., Ltd.—C, 42.

An example of effective showmanship is to be seen on this stand, where Messrs. Kerner-Greenwood exhibit their well-known "Pudlo" brand cement waterproofer. The many models they show are of a practical nature, and include a lily pool lined with waterproofed cement bordered on one side by grass-turfed banks. These banks are not merely decorative, but, being kept wet, provide a test of the vertical dampcourses of waterproofed cement applied to the porous walls against which they are placed. In addition to many models and practical exhibits, this firm have on view one of the well-known Amsler testing machines, by means of which specimens of cement mortar and concrete are put under hydraulic test, and the amount of water, if any, that passes through the specimens is accurately measured. This apparatus will be of especial interest to those who are concerned with the scientific aspect of cement waterproofing. We are told that the pressure applied in the course of these tests is far in excess of any that is likely to exist under practical conditions, and therefore demonstrates the satisfactory results to be obtained when the waterproofer is used with other materials of suitable quality and under the conditions which constitute ordinary good workmanship.

Messrs. Kerner-Greenwood's Stand.

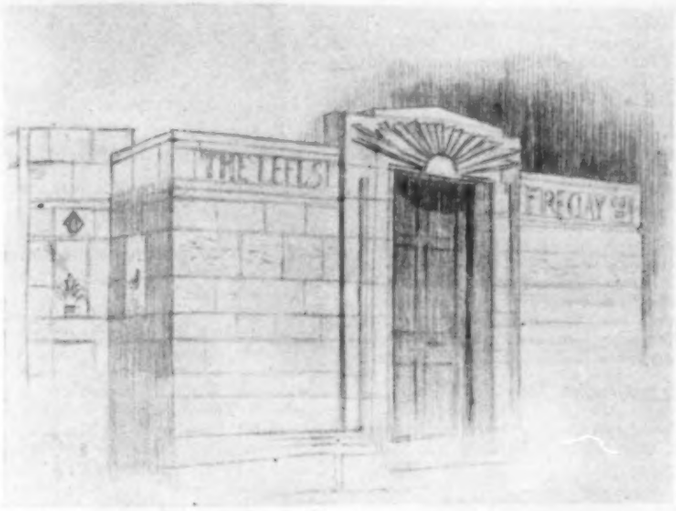
J. A. King and Co., Ltd.—F, 108.

Everyone in the building industry who is interested in building and partition blocks should see on this stand concrete building, wall and partition blocks of the "King" pattern for the erection of external and partition walls and internal partitions, in thicknesses from 1½ in. to 9 in. thick. These blocks have a rough surface for plastering on or for rough casting when used for external work. They are also made with a cement face for external work and internal partitions. Pumice partition blocks (light in weight and affording excellent hold for nails and screws): plaster slabs for partitions, plugging and ceilings; reinforced plaster roofing slabs (which form a light, fire-resisting roof construction and have been used, we learn, on many important buildings) are also to be seen. The company is demonstrating the "King" self-centering floor tube system, which, it is claimed, dispenses entirely with the use of centering, and enables floors to be completed very rapidly and carried out by the general contractor with unskilled labour.

W. T. Lamb and Sons.—G, 136.

The stand this year is constructed in 2-in. facing bricks forming a brick pavilion, in which are worked two brick mullioned windows.

The brick dressings of antique multi-coloured facings, the main work being in various types of purple and grey stocks. At the entrance of the stand is a lych gate, the piers of which are formed in "Godstone" antique brick instead of the usual timber. The stand is bounded by a dwarf wall, into which panels of many different types of facing bricks have been inserted to demonstrate part of the very wide range which this firm can offer. The courtyard thus formed is paved with the firm's attractive "wood-burnt" paving brick, and the sundial and birds' bath placed in the centre of each wing give an idea of the garden ornaments provided by this firm. This stand



The Leeds Fireclay Company's Stand.

is one whose merits speak for themselves, and architects or clients who are looking for fine bricks and tiles should not pass here without inspection.

James Latham, Ltd.—G, 140; G, 140a; and H, 148.

Visitors will find on Stand G, 140 samples of the high-class square-edged hardwoods and American lumber in which the firm specialises, a good idea of which is given by an office made of large sheets of plywood, suitably veneered or painted. Excellent hardwood mouldings, to architects' designs, are shown, and the hardwood floors in use in the offices and surrounds are made at the firm's own moulding mills.

Amongst a very large assortment of plywood on Stand H, 140a, two items stand out as of special interest to the builder of medium-sized property. These are specially designed mouldings of most simple pattern, made at Messrs. Latham's, Mahtal Mills, Leeside Wharf, Clapton, E.5. A further exhibit is of two sample sections of oak panelling called respectively "Mahtal Bungalow" oak panelling and "Mahtal Villa" oak panelling. These have been made with panels of oak plywood taken from stock, and enable a really good oak panelling to be produced at a remarkably low cost.

On Stand H, 148, Messrs. James Latham, Ltd., are showing some high-class logs of oak, mahogany, walnut, teak, etc., in which they have dealt for over a century. The whole is flanked with huge mahogany and walnut logs carrying impressive facia boards of the same woods. They offer considerable possibilities for such purposes as bank counters and fittings and general hardwood joinery.

Lee and Fouracre.—L, 209.

Messrs. Lee and Fouracre are exhibiting their Lee Magnum concrete block, brick and slab machines. As before, these machines are strongly built of steel, but there is a new feature in that all machines are now fitted with a counter-weight to tamper, rendering the operation much easier. They are, we believe, capable of a rapid output, and are easily manipulated. All operated by hand, the machines turn out blocks, slabs, bricks, etc., in varying sizes, in breeze or concrete. Every builder will do well to pay a visit here.

Leeds Fireclay Co., Ltd.—E, 101.

For many years this company has followed the practice of building its stand of its own materials, but seldom have such a variety of textures in faience, and such a profusion of colours been seen as those shown in the materials of which this is built. Architectural ideas fortunately vary, but it is unlikely that there will be an architect who will not find somewhere in this miniature building a texture or some permanent colour that does not meet with his approbation. In addition some of the latest ideas in sanitary appliances are shown. Leeds Fireclay sanitary ware is so well known that only new fitments are exhibited—the bed-pan washer, for instance, meeting a definite need for private nursing homes; a sink with a metal basket to collect meal refuse automatically, and several other new things of interest to the architect and builder. Fireplaces of new and attractive design are shown for the first time.

Liner Concrete Machinery Co.—O, 271.

On this stand is shown a complete exhibit of "Liner" concrete-mixing and moulding machinery, including tilting-drum concrete mixers, with and without hopper, and with and without friction hoist; these are made in three sizes, of 3½, 5 and 7 cubic feet mixed batch capacity. A portable type sand-lime mortar mixer, without hoist, is also on view, an excellent machine for making sand-lime mortar, sand-cement mortar, haired plaster, and for mixing concrete for concrete blocks, slabs, dressings, flags, kerbs, etc.; a notable merit of the machine is that it will mix and crush breeze and clinker in the one operation. Both these machines are engine driven. Other exhibits that will attract attention are the combination slab, block and brick machine (tamping operation automatic), and the concrete vibrating machine, direct driven by a petrol engine. This machine rapidly consolidates all concrete products, particularly flags and kerbs. There is also an excellent display of moulds for making flags, kerbs, fence posts, pipes, air grates and garden ornaments, and a working demonstration of these will be given on request.

London Brick Company and Forders, Ltd.—G, 131.

This stand displays to advantage "Phorpres" Fletton bricks, of which, according to the makers, over 1,000,000,000 are produced annually. The structure itself is faced with the 2 in. and 2¼ in. rustic bricks which provide an artistic and pleasing facing brick at a low price; the standard "Phorpres" brick is seen in one of the dwarf walls, and the interior of the office is faced with the company's special white facing bricks. An exhibit of particular interest is a 9 in. wall, constructed of the company's latest product, the Phorpres "Cellular Fletton," a patent brick giving honeycomb or cellular construction with a very considerable saving in weight and improvement of insulation of heat, sound and moisture. Exhibits also include sand faced hand-made tiles, granite chippings, partition blocks, etc.

Marshall, Sons and Co., Ltd.—O, 256.

The low running costs, long life and reliable performance of the oil engine maintain its popularity amongst builders as a source of power—for the score of occasions which constantly arise in building and contracting work. A useful development is a portable model which Messrs. Marshall are demonstrating on their stand. Its short specification is as follows:—16 brake H.P. portable; 2-stroke, crude-oil; with self-starter, friction clutch, driving pulley; and all latest improvements. Contractors who are looking for concrete mixing plant with a big but well-mixed output, should not fail to see the 9/6 mixer, which carries all the latest improvements. A smaller type, 4/3, is also worthy of notice.

National Radiator Company, Ltd.—O, 270.

Architects for small houses and for housing schemes will, with advantage, visit on this stand the "Ideal Cookanheat" boiler and fire. This piece of apparatus is now supplied with an insulating jacket and lifting grate, which give a complete open fire, provides facilities for cooking and supplies hot water for heating and warmth for several rooms, all from the one fire. In addition are shown specimens of the "Ideal" open and closed fire domestic boilers, "Classic" boilers fitted with an insulating jacket, a "Britannia" sectional boiler, "Ideal towel rails and "Classic" and "Hospital" radiators. As these boilers burn coke or anthracite and consume dry kitchen refuse, their low maintenance costs also commend them to inspection.

Nautilus Fire Co., Ltd. (Davis Gas Stove Co., Ltd.).—O, 268.

Amongst the exhibits of this firm are four complete gas fire settings, of which two are connected with gas and shown as if *in situ* in the apartment; a display of geysers, some of which are also connected with gas; a kitchen suite display, with a Nautilus coke boiler and gas cooker, and a number of coke boilers together with wash coppers, Nautilus coal grate in complete setting, cast concrete "Economy" flue block display with gas register and "Marblate" gas suites. In view of the advantages which smokeless fuel gives in combating the smoke evil, architects should visit this stand.

Nettlefold and Sons, Ltd.—H, 147.

The special feature of this stand is a display of door, window and internal fittings in a new cast stainless steel, which is being marketed under the name of "Semprax." This steel is made by a new process which renders it possible to cast practically any article which can be cast in brass. Fittings produced in "Semprax" have a brilliant mirror-like polish which remains unaffected by weather conditions. Another interesting exhibit is the "Nettleson" face fixing friction pivot, which is now being used for school buildings by several education authorities in different parts of the country. "J.B." window gearing, such as has been supplied to many important public buildings, is shown in various types and finishes. This, as well as panic bolts, a special rack bolt lock for banks, the well-known "Bardsley" door spring and the "Nettleson" cleaning hinge for casement windows, is made in the firm's own works at Wolverhampton.

Ostens (Byfleet), Ltd.—WALL, 30 [G].

A new type of serving hatch is shown here which, in these days when labour saving and efficiency in a house are so necessary, should interest architects. The "Servway" is so designed that the opening of one side

automatically locks the other. It is impossible, we are told, to see or overhear from kitchen to dining-room, and there is no possibility of draughts or the infiltration of cooking odours. Its advantages are that it saves walking, and serves food "oven-hot." It is easy to instal, and there are no mechanical parts to cause trouble; being lined with "Silveroid" stainless metal it is perfectly hygienic.

Frederick Parker, Ltd.—O, 263.

The display of plant on this stand is of special interest to building, engineering and road contractors. It includes several examples of concrete mixers of various batch capacities and with a variety of special labour-saving and other fitments. The firm has made a close study of economy in plant operation, and has aimed consistently at lower and lower costs. The various models on view reveal the success which has rewarded their efforts. Special interest will no doubt be aroused by the "Little Giant" mixer, which mixes not only concrete but mortar, plaster, hair-plaster, compo, tarmacadam, and similar aggregate. In addition to the mixers, there is an excellent display of other plant, including a solid body granulator, a stonebreaker, a brick breaker and engine combined, a hoist and engine combined, a sand and gravel washer, and concreting barrows and carts.

Thomas Parsons and Sons.—G, 135.

"H.M.S. Endelline" again makes a successful entry into Olympia, and, as is usual with anything connected with the sea, is a centre of attraction—at least, with anyone who has an eye for fine colours. Practical, applied examples of Parsons' enamels, varnishes and paints are to be seen, including "Endelline" enamel, which produces a porcelain-like finish that may be repeatedly washed without deterioration, and is suitable for external or internal application. "Endellat" enamel, "Lacreite" enamel and a variety of other finishes are also exhibited, while new lines and textures produced with "Parso-Glaze"—the decorative scumbling paints—are demonstrated. A series of plastic paints and a product "Parso-Stone," which gives a rough, stone-like surface on any material, are further exhibits which make it well worth while "going on board."

Patent Impermeable Millboard Co., Ltd.—O, 267.

"Sundeala" and "Insulwood" building boards as applied to the building trade are especially exhibited at this stand. "Sundeala," a waterproof board, is shown in various effects. Besides being used in buildings generally, it has been supplied for panel work in such vessels as the S.S. "Mauretania," S.S. "Belgenland," S.S. "Alcantara," S.S. "Doric," S.S. "Samaria," and several others. It is also used in the construction of railway carriages, and anyone entering a modern coach on the London Underground Railway can generally see a "Sundeala" ceiling for himself. "Insulwood" is a material which we are informed has proved itself an efficient heat insulator and sound absorber, and in a recent test in connection with talking cinemas it gave a fairly even percentage of absorption over a range of six frequencies; full information on this matter may be had on a visit to the stand. "Insulwood" is also shown as a panel board, and in this respect is waterproof and can be used as external and internal sheathing, and also as a plaster base. It is also shown in various decorated effects.

Patent Tip-Up Bath Co.—L, 222.

For the small house of the municipal or other type where space is limited, a tip-up bath is very necessary. "Darby's" patent tip-up bath fulfils a very real need here. It is made in all sizes and metals, as sheet-copper (tinned inside), sprayed aluminium or copper coloured on outside. These baths can be used in conjunction with a "Hurry" furnace, or can be arranged from a back boiler system. Municipal authorities and their architects should pay a visit here.

Thomas Potterton (Heating Engineers), Ltd.—C, 37.

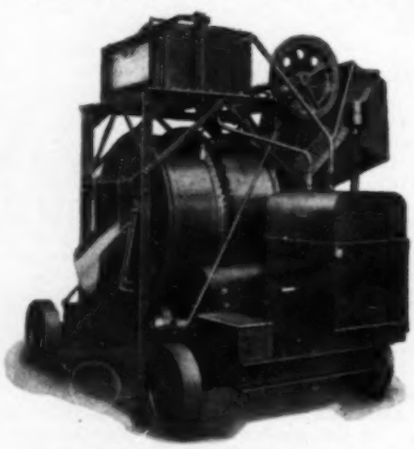
An interesting working example of central heating by gas with circulating radiators, thermostatically controlled, is in operation here. Patent thermostats of both the positive and by-pass type are on view, two new designs being exhibited for the automatic control of gas supply in heating water for domestic and trade purposes; also air thermostats for maintaining temperatures for various purposes. Other exhibits include an example of combined heating and domestic hot-water supply, heating both through direct and indirect systems from coke boilers, operating the full duty from one fire, with an adjunct in the form of a gas boiler for domestic supply during the summer months; hot-water equipment for sports pavilions and bungalows and other single-story buildings, etc. The gas boilers used for all these systems is the "Victor."

Prodorite, Ltd.—WALL, 40 [G].

Aggregates which will be worth inspecting by the architect for his factory floors are shown here in the form of the "Prodordur" and "Ferrodur" aggregates. The former contains a wear-resistant content and the latter the same content but also a waterproofer, making it particularly suitable for floors in basements or on a damp site. "Prodorite" acid-proof concrete flooring tiles, lining bricks, gutters, skirtings, etc., are also on view, while "Ferrogran" steel-faced flags are a further exhibit of interest.

Ransomes and Rapier, Ltd.—C, 36 [A.]

Everyone connected directly or indirectly with building and constructional work should take the opportunity of visiting this stand.

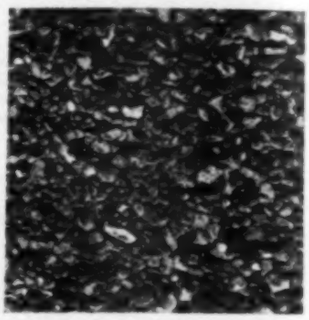


Ransome Concreting Plant.

Exhibits of particular interest this year are the Ransome "7T" tilting drum mixer, and also the Ransome "Lightweight" with placing equipment. Although both these additions to the Ransome range are comparatively recent, we believe they have well justified themselves. A series of excellent photographs is on view, illustrating the "R and R" petrol-electric mobile cranes, which give an excellent idea of this crane's performance. A wide and representative selection of barrow hoists, light and heavy mixers and other concreting machinery completes a very useful exhibit.

Redalon, Ltd.—F, 105.

We are less inclined to-day towards humbug—in building matters at least. We allow materials to be themselves, to fulfil their functional job. We no longer find ourselves obliged by a feeling of guilt to hide plaster with paper or conceal the natural surface of joinery with French polish. We are discovering that many materials have a beauty of their own—concrete, for instance. Architects who are interested in this subject should pay a visit to Messrs. Redalon, Ltd.'s stand, where a demonstration may be seen of their "Redalon" liquid, Grade A. This liquid, painted on to the shuttering before pouring concrete, has the effect of retarding the setting on the surface of the concrete for a space of time long enough to allow hand brushing to expose the aggregate. Some idea of the effect of this may be gained from the accompanying illustration. It must be made



Concrete Aggregate exposed by "Redalon."

clear that this retarding action is only temporary and does not impair the final strength of the concrete. This liquid, in another grade, "B," is used for obtaining an efficient key or bonding for cement or plaster renderings, and examples of various renderings bonded to concrete slabs treated by this liquid are shown. Thames House and the Dominion Theatre are two recent buildings for which "Redalon" has been specified. An additional exhibit here is the "Bull-Dog" floor clip for anchoring joist and board floors to fireproof floors beneath without using a fill or plugging the floors.

Rhodes Chains, Ltd.—C, 43.

This firm's exhibits demonstrate practically their improved sash chains and patent pulleys for hanging sliding sashes, blackboards, lift shutters and work of similar character. The new sleeve and ball bearing pulleys, produced since the last exhibition, maintain a high character of efficiency and manufacture. Those interested or concerned in sash line maintenance will view with interest a chain designed for replacing existing sash cords as they break, which should appeal especially to owners of property, estate agents, etc. Greenwood's patent larder lights, skylights, and also deadlights, are a valuable exhibit, and portray the principles of permanent ventilation with lighting, which yet is rainproof. No opening gear is required. The various types of skylight ventilators are also made with the top to open to allow of egress to the roof. These lights are shown in cast iron, steel galvanised, zinc or copper.

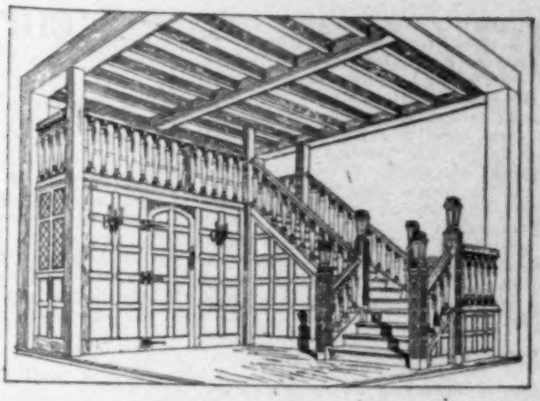
Stand of Messrs. Rhodes Chains, Ltd.

Roneo, Ltd.—F, 107 [A].

Architects for office blocks and big or small stores will be interested in a display given on this stand of a new style of partition. The Roneo "Unit Partition" is constructed so that it can be easily erected without damage to the floor, walls or ceiling. Should changing conditions make an alteration advisable, the partition can be taken down and re-erected in a new position with very little difficulty. The partition consists of tubular posts attached to the floor by means of an adjustable foot casting, thereby taking up any inequalities in the floor level. The lower panels are double and are packed with sound resisting material. The upper panels are generally filled in which glass, but if required can be filled in with steel, forming a solid sound resisting partition. The standard height is 7 ft. 6 in., and where desired can be extended to the ceiling by a superimposed section of the required height. The construction of the actual stand illustrates the system. In addition, partition bank equipments, library bookstacks, steel desks, filing cabinets and other steel furniture are displayed. The development in the using of steel furniture and fittings has been very slow to begin with, but we learn that in recent years it has been widely adopted by such important concerns as the Midland Bank, Lloyds Bank, National Library of Wales, Royal London Mutual Insurance Society and many other important concerns and institutions.

Ruberoid Co., Ltd.—H, 146.

This firm are exhibiting their "Ruberoid" bitumen roofing, for use on large commercial and industrial buildings. This material is said to be equally efficient on flat, pitched or curved roofs of wood or concrete, and is unaffected by the fumes of acids or alkalies, or by sea-air. The "Starex" roofing, a sound, medium-weight roofing of good substance, suitable for use on garages, large sheds, farm buildings and workshops, is also to be seen on this stand, together with the Pluvex roof felt, a light-weight roofing of good quality.

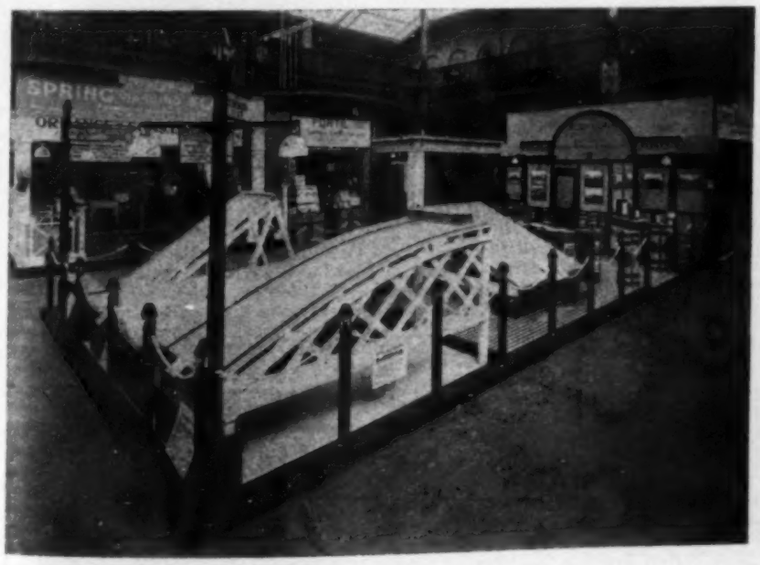


Messrs. John Sadd's Stand.

grown oak, specially selected, and has been constructed in their Maldon shops. The electric light fittings have been specially designed by the architect for the stand, Mr. George Coles, F.R.I.B.A.

J. Sagar and Co., Ltd.—A, 1.

Here is provided a comprehensive display of electrically-driven woodworking machinery, including the "Premier" combined hand and roller feed surface planing and thicknessing, moulding, etc., machine; a chain-feed edging and sawing machine; a band sawing machine; a hand-planing, jointing, moulding, etc., machine; a roller feed panel planing and thicknessing machine; a heavy vertical spindle moulding and shaping machine; a double-spindle recessing machine for stair strings; a tenoning machine; a semi-automatic chain-cutter and hollow-chisel mortising machine (light type); a semi-automatic chain-cutter and hollow-chisel mortising and boring machine, and a cutter grinding and sharpening machine. The exhibit is one that will appeal to all progressive builders and contractors.



The Ruberoid Stand.

"Ruberoid" strip slates, a form of "Ruberoid" roofing having a slate surface, and cut in the shape of tiles, completes the display.

John Sadd and Sons, Ltd.—N, 234.

The exhibit of this firm takes the form of a reproduction of a Jacobean hall and staircase in English oak. The piece of joinery is a good illustration of the woodworker's craft, and has been carried out by the firm themselves. The whole of the woodwork is Essex-

J. H. Sankey and Son, Ltd.—O, 261.

Special features on this stand are:—(1) Sankey's "Pyruma" plastic fire cement, a firebrick bond, for setting and repairing all kinds of firebrick structures. "Pyruma" sets as hard as Portland cement, with or without heat, and resists high and intermittent temperatures without cracking or crumbling away. (2) The new improved "Sankey" down-draught-preventing pot, a scientifically built and tested chimney pot which traps the wind blowing from any direction. It is noiseless and imperishable, and harmonises with all types of architecture. (3) Fosalsil Moler insulating partition blocks, which provide insulation against heat, cold and sound. The blocks have extreme lightness combined with great mechanical strength. (4) "Sankmar," an all-British plastic paint, which provides a permanent interior decoration in relief, and sets to a marble hardness.

Scaffolding (Great Britain), Ltd.—E, 103.

An important exhibit is a patent adjustable steel gantry, a new labour- and time-saving construction introduced to the trade about six months ago, and already meeting a wide demand. Sections of this gantry are shown erected complete as on a building contract.

The S.G.B. Patent "Scaflock" Worm Joint.

Superimposed on the gantry is an independent tubular scaffold, of which system of scaffolding this company are the original founders and inventors. The tubular construction features the new Scaflock worm joint, which saves 25 per cent. of couplers on every contract, and requires no coupler when joining the two tubes together. Two bays of patent suspended scaffolding for use on steel-framed buildings are shown, so that details of construction and operation may be clearly seen. Under the general head of scaffolding there are also on view patent adjustable split-heads, for light interior scaffolds, and the patent Tubeshor, now recognised as an efficient support for centering. Sections of "Conforms" steel shuttering are available for examination together with illustrations and descriptive leaflets demonstrating the adaptability of these forms for all classes of repetition concrete work. Finally, the well-known Scaffixer scaffold tie is shown, and demonstrated daily for the benefit of those who still hold stocks of the old-style scaffold pole. The materials used are all British and the best.

Standard Range and Foundry Co., Ltd.—L, 217.

Exhibited on this stand is a selection of building fitments needed for the modern house. New designs in tile fireplaces, made of fireclay tiles, in an extensive range of colours with raised hearths and curbs slabbed in one piece, fitted with "Dell" fires, are to be seen, also some fine examples of modern wood mantelpieces. The new shape rectangular bath is shown fitted with imitation marble panels and chromium plated fittings. In addition to those mentioned are some oak doors, well designed and strongly constructed from selected and thoroughly seasoned wood.

Stephens and Carter, Ltd.—F, 117.

The display of building trade plant on this stand is of great diversity; it includes ladders, barrows, steps, trestles, trucks, extension ladders, steel scaffolding, scaffold cords, fall ropes, tarpaulins, wire lashes,

Venesta, Ltd.—F, 118.
This stand has a special interest, inasmuch as it has been designed by M. Le Corbusier, and is the first work of its kind carried out in England by the great French exponent of modern development in architecture and construction. The stand itself is a novelty in exhibition stand design, and displays in a very effective manner the grades of Venesta birch plywood, and the various other types of Venesta plywood—oak, walnut, mahogany, gaboon, etc. Photographs illustrating work that has been carried out with the different grades and types of plywood accompany each specimen of material. The use of "Plymax"—the armoured plywood—is also shown by practical examples.

Westmorland Green Slate Quarries, Ltd.—E, 83.
The advantages of displaying an exhibit which shows a product as it would appear *in situ* is well demonstrated by the pavilion which this firm has erected on its stand. The pavilion is roofed with the Westmorland green slate, which is also used for the window panels. Elsewhere the pavilion is rendered with "Snowcrete" No. 2, cream-tinted. The effect can best be judged by a visit to the stand, where an exhibit of Westmorland green slates, slating and stone is also arranged to provide practical assistance to the architect. New departures in the form of sawn-out ridges and floor panels of composite slates will also be shown.

Wheatly and Co.—D, 72; 20-28 [G].
This exhibit takes the form of a small building incorporating the firm's red and brindled briquettes in varying colours, red and brindled hand-made sand-faced roofing tiles, rounded hip tiles, red round-nosed quarries, multi-coloured sand-faced octagon quarries, and panels showing the different colours and qualities of roofing tiles made by the works. There are 20 of these panels, in every one of which different roofing tiles are shown, and two further panels are given up to the display of wall tiles which can be used on the outer walls of buildings as a protection against damp and simulating ordinary facing brickwork. Underneath the hip end is an open space in which the different kinds of vertical roofing tile panels can be inspected, the floor of the public space being laid with a close-fitting joint. The firm has also an interesting exhibit of brick fireplaces in the Gallery.

Willcox and Co., Ltd.—N, 231.
Being shown on this stand is the Willcox's "Penberthy" (Regd.) automatic cellar and sump drainer, model "E," which is operated automatically by an electric motor and impellor claimed to give everlasting service. Other types of pumps include the automatic water-operated pump which is known as Model "L," operated from the mains. The drainer operates a valve with copper float and iron strainer. The ejector is fitted above the float instead of beneath. A foot-valve in the strainer seals the suction pipe when the drainer stops working, holding the water in all the pipes, so that it is always primed ready to start instantly.

Winget, Ltd.—R, 290.
This firm shows a comprehensive range of their open-drum mixers, which are guaranteed to give a perfect mix of anything from wet concrete to plasterers' haired mortar. The smallest unit shown is the 5/3½ model, without elevating hopper, with framework of all-steel construction, mounted on two strong roadwheels and fitted with extensible draw-bar. The next machine is the 7/5 size, and the range of mixers is completed with a 10/7 model. Another leading feature of the stand is a display of diaphragm pumps, of which various models are shown, including both "Lift" and "Lift and Force" types. The pumps are of specially robust construction, and are mounted on a steel frame on strong roadwheels. They are fitted with the well-known "Lister" engines—ensuring steady running and freedom from breakdowns. Crushers and brick-breakers, slab and brick machines are also on view.

ARCHITECTS' AND BUILDERS' INQUIRY BUREAU

Damp Party Wall.

[Reply to "L. H.," September 12.]

Sir,—The trouble seems to be a matter of condensation. The lime setting should be a check to this, but is probably trowelled too smooth. If the chimney breast were stripped of rendering and rendered in lime, finished with a wood float, the trouble would probably be obviated. The bulk of a chimney makes a mass of cold-holding material upon which condensation is particularly likely on muggy days. Practice.

Pantiles.

[Reply to "Abe," August 15.]

Sir,—It is a good thing to felt over the counter battens instead of in the usual way, under them. The felt thus dips down between the battens and forms a vertical outlet for water which may penetrate the tiles, while the nail-holes, which are the further source of weakness, are protected by being raised on the counter battens. Such a roof, if carefully laid, should be quite weatherproof, however porous the tiles. Precaution.

Plaster Cracks.

[Reply to "Observer," September 2.]

Sir,—I agree that a good many of our modern plaster troubles are due to the use of sawn laths and would be obviated by the use of rent laths. Unfortunately I find it almost impossible to get the latter, and have no doubt this is a common experience. Personally, I always specify my ceilings to be lined, and this saves a good deal of early defects, while giving a permanent tenacity to the ceiling plaster. Other causes of small cracks are too quick drying of plaster, as when windows are kept wide open during good drying weather, or too great a heat maintained during the finishing of a building. Another is shrinkage of timbers in studwork, and frequently that of wall plates where rooms are in the roof. It is well worth while to spend a little money on light steel joists, and avoid stud partitions as much as possible for those first-floor walls which do not occur with solid bearings on ground-floor walls. Timbers should be covered with expanded metal lathing before plastering well lapped beyond, and counter lathing on wide timbers is a necessity too often forgotten. Method.

Defective Concrete Floor.

[Reply to "T. N. C.," September 12.]

Sir,—Stripping the surface and resurfacing with hard asphalt would be the most certain cure, but it would be necessary to view the extent of the trouble before judging whether less drastic measures would suffice.

Waterproof.

Cost of Building in Isle of Man.

Sir,—Could any reader give me an estimate of the cost of school building in the Isle of Man, including separate items such as an assembly hall and gym. Reader.

Salary Question.

Sir,—When one is engaged on a weekly basis (or salary) and after six hours is dismissed as unsuitable, can a week's salary be claimed? Reader.

Roof Drainage Questions.

Sir,—(1) What amount of rainfall (for London) should be allowed when calculating the size of R.W.P.s and gutters? Text-books seem to differ considerably on this point.

(2) Can any of your readers give me a simple formula for calculating the discharging capacity of R.W.P.s in which there are bends?

(3) What should be the minimum distance apart for outlets in a long length of gutter with practically no fall?

(4) Should gutters be sufficient in capacity to take all rain which would fall on an area to be drained in five minutes? Quere.

Corrosive Sublimate.

[We have received an inquiry from a correspondent with regard to Mr. J. R. Taylor's article on dry rot in our issue for September 5, in which reference was made to corrosive sublimate. Our correspondent asks for information on the precautions necessary in the application of this as a dry rot treatment.]

Mr. J. R. Taylor writes as follows:—

"Four ounces should be dissolved in 1½ gallons of boiling water, and the bucket used should hold not less than 2 gallons. It expedites the preparation if the water and chemical are both boiled up at the same time and stirred with a stick for 10 to 15 minutes when boiling. The preparation is best carried out by the man who is about to apply it, because, warned that it is a poison and will burn if he gets it on his bare skin, he mistakes the first sting he gets from the hot water for the sting of the acid, and it makes him more careful. Apply with a worn distemper brush. Painters make the best use of it, as they are used to applying liquids without splashing themselves. It should not be used without old gloves by anyone with cuts or sores on their hands or arms. In fact, it is best left alone if sores are present. But I know of one instance where the same labourer has repeatedly used it for nearly 30 years without complaint, and he has never worn gloves or taken any special precautions other than to be careful not to splash. Throw any surplus down drain and rinse bucket and brush. If applied at a height where it might splash into eyes, wear a fall of muslin or butter-cloth. There is, however, no reason to be afraid of it with ordinary care, as I have never heard of any damage following from its use."

Specification Clause.

Sir,—A builder was recently asked to estimate for the internal decoration of part of a house, amounting to £52, and one of the clauses of the specification was as under:—

"*Electrician.*—Leave bells in order."

(1) When going round for estimating the bells did not work, and it was assumed that the batteries were down and that probably minor adjustments to the bells would be necessary, and a small sum was inserted to cover this work. The house had just been vacated.

(2) When the electrician was sent to do the job it was found that the wires had been cut in places and that the whole of the bell installation ought to be renewed to leave bells in a satisfactory condition.

(3) The state of the wiring was pointed out to the agents concerned and an estimate given for renewing the installation. The agents at once said that "leave bells in order" implied doing all necessary work, including, if necessary, a new installation.

(4) I differed with them on this point, and contended that the clause could only be construed "to rectify minor defects" as above, and that one could not tell without taking up boards that wires were cut, etc., and that the said clause could not reasonably be construed to imply that a new installation be put in if necessary.

(5) Should a builder, in estimating under the clause, have to take up boards, etc., to see if the installation is reasonably satisfactory, bearing in mind it is a furnished house with carpets in position? Reader.

Allowance Time for Rain.

Sir,—What would be a fair allowance of time for rain on a building contract for eight months, from March 25 to November 25 of last year, in the district of North-west London, bearing in mind the exceptional drought of last year M. L.

THE BUILDING TRADE

RECURRING DEFECTS: THEIR CAUSE, PREVENTION AND CURE.—XI

By J. R. TAYLOR.

INTERNAL PLASTERING.

By far the greatest number of defects in connection with internal plastering are caused by timber shrinkages and by the penetration of moisture from outside. There are, however, innumerable other causes, but before going on to enumerate the more common of them I will refer to the proportioning of material and methods of application in relation to the durability of the finished work.

Proportions.

Architects are much at variance in their specification of the proportions of lime, sand and hair and the age or seasoning of the putty lime. The following directions are taken almost haphazard from bills of quantities prepared by qualified surveyors for architects of repute :—

For a Secondary School.—Lime to be run at least six weeks. One of putty, two of sand, and one bushel of hair per yard cube of putty.

Large first-class Residence.—Lime run at least a month. One of putty, three of sand, and plenty of hair.

A Church.—Lime at least a month. One of putty, three of sand, 9 lb. of hair to cubic yard of mortar.

Residential Public School.—Lime fourteen days. One of putty, three of sand, 9 lb. of hair cubic yard (not stated whether putty or mortar).

A cheap Bungalow.—Lime at least six weeks. One of putty, two of sand, 14 lb. hair cubic yard mortar.

A Hospital.—Time not stated. One of putty, three of sand, 1 lb. hair, 3 cu. ft. mortar.

A Bank.—Lime three months. One of putty, 2½ parts sand, 9 lb. of hair yard cube of mortar.

Specifications presenting much greater contrasts are not infrequent, but I have taken the above examples because each of them is backed by good names.

H.M. War Department Specification is as follows:—

PLASTERING GENERALLY.—The "coarse stuff" for rendering or plastering (first coat) to be composed of one part of chalk (or "fat") lime to three parts of sand measured before slaking. Bullock's hair in the proportion of nine pounds to each yard cube of mixed mortar is to be added and well hooked into the mixture. The hair is to be long and clean, and to be well beaten before adding to the mortar.

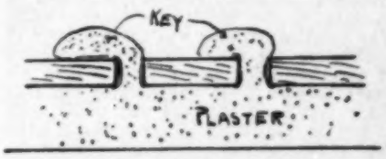
The floating coat (second coat in three-coat work) to be of "floating stuff," composed of one part of similar lime to two parts of sand measured before slaking. Hair, as described, is to be added for ceilings.

The setting coat of "fine stuff" to be composed of one part putty lime to one of sand.

Lime putty is to be prepared from chalk (or "fat") lime at least six weeks before required for use.

This specification does at least endeavour to ensure that the proportions of lime and sand as applied wet shall have some definite relation to the proportions when the work has dried out. It will be noted that only in the setting coat is the lime measured wet. After six weeks the proportions of lime to bulk of putty lime are much more definite than at an earlier stage, as any reader may verify for himself by noting the shrinkages in a bed of putty lime as time goes on. But even with this specification the proportions are variable on account of the curious behaviour of sand when moistened. Let the reader who has already noted the shrinkage in the putty lime bed now turn his attention to the sand. Let him take a bucket of sand from the heap, and he will find that by gently pouring he can add about half a bucket of water, sometimes more, without increasing the bulk. Turn it out and knock it up like mortar, and shovel it back into the bucket, and a lot of water will work up to the top, which, when poured off, will leave him with less than a bucketful of wet sand. Now let him bake this part bucket of sand, and when it is thoroughly dry turn it out and knock it up in this state. Refill the bucket, and he will find himself with some to spare. It will therefore be seen that the mixing of mortars as carried on outside the test-rooms is not an exact science, and that the weather, as in so many other building operations, has some bearing on the matter.

LATHING.—Before leaving the question of specification, I will quote the W.D. Schedule again:—"The wooden laths to be sawn laths ¾-in. by 1 in. Laths are to be fixed to break joint every three feet, with butt joints each end nailed, and not to overlap. They are to be fixed not less than quarter-inch nor more than three-eighths inch apart with 1-in. blued clout-headed nails."



WHEN LATHS TOO CLOSELY SPACED THE SWELLING BY REASON OF MOIST PLASTER CUTS NECKINGS OF KEY.

The important part of this specification is, first, the length of the nails. Lathing, as a rule, does not fail because the laths are too weak, but because the very thin, short wire nails draw. But of even greater importance is the strict attention given to the spacing. Even in the commonest of work the fault, as a rule, is that the laths are fixed too closely together, and not as one would surmise, more widely apart to save laths. The key of plastering on laths is more dependent on the mortar squeezing through and turning over on the back of the lath than on any adhesion to the wood. If the space is too little the connecting neck (see sketch) is too thin and is broken through with but very little vibration. It is also liable to be cut through by reason of the expansion or swelling of the laths when the wet mortar is applied to them. Laths are one of the very few articles of bone-dry timber that come on to the job and therefore swell more readily.

Thorough Mixing Necessary.

In the specification quoted it will be seen that the importance of the hair being clean and well hooked in is noted. Ordinarily, the hair as delivered to the builder is very dirty and is caked together. All this dirt should be got rid of by well beating the hair until it is clean, soft and springy when handled. This is often neglected, with the result that it will not mix properly, and can be found in small, compact pads in the finished work. It is not every builder's labourer who knows how to knock up a bed for the plasterers, and many failures result from poor mixing.

Key.

The adhesion between the separate coats of plaster is frequently less than that of the first coat to the wall surface owing to the scratching not being properly done. This is very noticeable when wallpapers are stripped; the painter frequently tears off quite a considerable area of skimming where in cheap work he strips loose paper dry, instead of the whole area wet. But far too often to be tolerable the first coat is deficient in adhesion due to the bricks presenting too smooth a surface, and sometimes because they were too dry when this coat was applied.

Comparatively few architects specify that new brickwork shall be raked out for key, and this results in the rougher mortar of the bricklayer projecting into the plastering, and as the building mortar contains all too frequently unslaked nodules of lime, "blowing" takes place. Many small brickworks have not an adequate plant for getting rid of lime found in the clay beds, and this also occasions blowing both in the plastering and in common facings. These pieces of unslaked lime may remain dormant over a considerable length of time; the prolonged rains of 1929-30 found them in buildings that had been up as long as ten years, and in one instance I counted over a hundred blow holes in the wirecut facings of a small house.

Penetration of rain and swelling of timbers as they affect plastering have already been dealt with, but there is one other case of expansion not so often noted until well after the maintenance period has expired. Where iron mantelpieces are fixed the narrow strip of plaster between the jamb and the angle bead on chimney breast frequently gives way owing to the expansion and contraction of the ironwork.

Plugging. The amount of damage done by plugging walls is so great and the remedies are so comparatively simple that it is astonishing that more attention is not paid to this important matter. To make a building as nearly foolproof as possible, I suggest the inclusion of the following clause in the specification and bills of quantities: "Provide breeze fixing bricks of a size so much larger than the ordinary bricks that they will stand proud on the faces for easy recognition, or provide thoroughly dry elm pads twice coated with damp-resisting materials set with sufficient projection as to be discoverable after plastering. The builder is to exercise care and foresight in the building in of the joinery fixing slips and/or bricks as on no account will any plugging into the joints of the brickwork be permitted. Should any fixing pieces be afterwards required they shall be drilled into the bricks and not into the joints."

After inserting a clause of this sort the architect in order to justify it must come to a sufficiently early decision as to the nature and position of all fittings requiring fixing pieces as to permit the builder to make the necessary provision, but in order to guard against disputes as to liability for omission, the far-seeing quantity surveyor would take up a certain number of drilled pluggings *provisionally*. These provisional items are generally very carefully priced, because they cut both ways on final adjustment.

As it is for want of these or similar precautions, the key of plastering is very much weakened owing to plugging, particularly in half-brick walls, and because cavity walls find so much favour few are in ordinary domestic work in better case. With a row of plugs driven at skirting level while the work is green and another at picture-rail height, it is surprising that the work stands up to it at all, and not at all astonishing that failure follows.

Venesta, Ltd.—F, 118.
This stand has a special interest, inasmuch as it has been designed by M. Le Corbusier, and is the first work of its kind carried out in England by the great French exponent of modern development in architecture and construction. The stand itself is a novelty in exhibition stand design, and displays in a very effective manner the grades of Venesta birch plywood, and the various other types of Venesta plywood—oak, walnut, mahogany, gaboon, etc. Photographs illustrating work that has been carried out with the different grades and types of plywood accompany each specimen of material. The use of "Plymax"—the armoured plywood—is also shown by practical examples.

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This exhibit takes the form of a small building incorporating the firm's red and brindled briquettes in varying colours, red and brindled hand-made sand-faced roofing tiles, rounded hip tiles, red round-nosed quarries, multi-coloured sand-faced octagon quarries, and panels showing the different colours and qualities of roofing tiles made by the works. There are 20 of these panels, in every one of which different roofing tiles are shown, and two further panels are given up to the display of wall tiles which can be used on the outer walls of buildings as a protection against damp and simulating ordinary facing brickwork. Underneath the hip end is an open space in which the different kinds of vertical roofing tile panels can be inspected, the floor of the public space being laid with a close-fitting joint. The firm has also an interesting exhibit of brick fireplaces in the Gallery.

Willcox and Co., Ltd.—N, 331.
Being shown on this stand is the Willcox's "Penberthy" (Regd.) automatic cellar and sump drainer, model "E," which is operated automatically by an electric motor and impellor claimed to give everlasting service. Other types of pumps include the automatic water-operated pump which is known as Model "L," operated from the mains. The drainer operates a valve with copper float and iron strainer. The ejector is fitted above the float instead of beneath. A foot-valve in the strainer seals the suction pipe when the drainer stops working, holding the water in all the pipes, so that it is always primed ready to start instantly.

Winget, Ltd.—R, 290.
This firm shows a comprehensive range of their open-drum mixers, which are guaranteed to give a perfect mix of anything from wet concrete to plasterers' haired mortar. The smallest unit shown is the 5/3½ model, without elevating hopper, with framework of all-steel construction, mounted on two strong roadwheels and fitted with extensible draw-bar. The next machine is the 7/5 size, and the range of mixers is completed with a 10/7 model. Another leading feature of the stand is a display of diaphragm pumps, of which various models are shown, including both "Lift" and "Lift and Force" types. The pumps are of specially robust construction, and are mounted on a steel frame on strong roadwheels. They are fitted with the well-known "Lister" engines—ensuring steady running and freedom from breakdowns. Crushers and brick-breakers, slab and brick machines are also on view.

ARCHITECTS' AND BUILDERS' INQUIRY BUREAU

Damp Party Wall.

[Reply to "L. H.," September 12.]

Sir,—The trouble seems to be a matter of condensation. The lime setting should be a check to this, but is probably trowelled too smooth. If the chimney breast were stripped of rendering and rendered in lime, finished with a wood float, the trouble would probably be obviated. The bulk of a chimney makes a mass of cold-holding material upon which condensation is particularly likely on muggy days. Practice.

Pantiles.

[Reply to "Ars," August 15.]

Sir,—It is a good thing to felt over the counter battens instead of in the usual way, under them. The felt thus dips down between the battens and forms a vertical outlet for water which may penetrate the tiles, while the nail-holes, which are the further source of weakness, are protected by being raised on the counter battens. Such a roof, if carefully laid, should be quite weatherproof, however porous the tiles. Precaution.

Plaster Cracks.

[Reply to "Observer," September 2.]

Sir,—I agree that a good many of our modern plaster troubles are due to the use of sawn laths and would be obviated by the use of rent laths. Unfortunately I find it almost impossible to get the latter, and have no doubt this is a common experience. Personally, I always specify my ceilings to be lined, and this saves a good deal of early defects, while giving a permanent tenacity to the ceiling plaster. Other causes of small cracks are too quick drying of plaster, as when windows are kept wide open during good drying weather, or too great a heat maintained during the finishing of a building. Another is shrinkage of timbers in studwork, and frequently that of wall plates where rooms are in the roof. It is well worth while to spend a little money on light steel joists, and avoid stud partitions as much as possible for those first-floor walls which do not occur with solid bearings on ground-floor walls. Timbers should be covered with expanded metal lathing before plastering well lapped beyond, and counter lathing on wide timbers is a necessity too often forgotten. Method.

Defective Concrete Floor.

[Reply to "T. N. C.," September 12.]

Sir,—Stripping the surface and resurfacing with hard asphalt would be the most certain cure, but it would be necessary to view the extent of the trouble before judging whether less drastic measures would suffice.

Waterproof.

Cost of Building in Isle of Man.

Sir,—Could any reader give me an estimate of the cost of school building in the Isle of Man, including separate items such as an assembly hall and gym. Reader.

Salary Question.

Sir,—When one is engaged on a weekly basis (or salary) and after six hours is dismissed as unsuitable, can a week's salary be claimed? Reader.

Roof Drainage Questions.

Sir,—(1) What amount of rainfall (for London) should be allowed when calculating the size of R.W.P.s and gutters? Text-books seem to differ considerably on this point.

(2) Can any of your readers give me a simple formula for calculating the discharging capacity of R.W.P.s in which there are bends?

(3) What should be the minimum distance apart for outlets in a long length of gutter with practically no fall?

(4) Should gutters be sufficient in capacity to take all rain which would fall on an area to be drained in five minutes? Quere.

Corrosive Sublimate.

[We have received an inquiry from a correspondent with regard to Mr. J. R. Taylor's article on dry rot in our issue for September 5, in which reference was made to corrosive sublimate. Our correspondent asks for information on the precautions necessary in the application of this as a dry rot treatment.]

Mr. J. R. Taylor writes as follows:—

"Four ounces should be dissolved in 1½ gallons of boiling water, and the bucket used should hold not less than 2 gallons. It expedites the preparation if the water and chemical are both boiled up at the same time and stirred with a stick for 10 to 15 minutes when boiling. The preparation is best carried out by the man who is about to apply it, because, warned that it is a poison and will burn if he gets it on his bare skin, he mistakes the first sting he gets from the hot water for the sting of the acid, and it makes him more careful. Apply with a worn distemper brush. Painters make the best use of it, as they are used to applying liquids without splashing themselves. It should not be used without old gloves by anyone with cuts or sores on their hands or arms. In fact, it is best left alone if sores are present. But I know of one instance where the same labourer has repeatedly used it for nearly 30 years without complaint, and he has never worn gloves or taken any special precautions other than to be careful not to splash. Throw any surplus down drain and rinse bucket and brush. If applied at a height where it might splash into eyes, wear a fall of muslin or butter-cloth. There is, however, no reason to be afraid of it with ordinary care, as I have never heard of any damage following from its use."

Specification Clause.

Sir,—A builder was recently asked to estimate for the internal decoration of part of a house, amounting to £52, and one of the clauses of the specification was as under:—

"*Electrician.*—Leave bells in order."

(1) When going round for estimating the bells did not work, and it was assumed that the batteries were down and that probably minor adjustments to the bells would be necessary, and a small sum was inserted to cover this work. The house had just been vacated.

(2) When the electrician was sent to do the job it was found that the wires had been cut in places and that the whole of the bell installation ought to be renewed to leave bells in a satisfactory condition.

(3) The state of the wiring was pointed out to the agents concerned and an estimate given for renewing the installation. The agents at once said that "leave bells in order" implied doing all necessary work, including, if necessary, a new installation.

(4) I differed with them on this point, and contended that the clause could only be construed "to rectify minor defects" as above, and that one could not tell without taking up boards that wires were cut, etc., and that the said clause could not reasonably be construed to imply that a new installation be put in if necessary.

(5) Should a builder, in estimating under the clause, have to take up boards, etc., to see if the installation is reasonably satisfactory, bearing in mind it is a furnished house with carpets in position? Reader.

Allowance Time for Rain.

Sir,—What would be a fair allowance of time for rain on a building contract for eight months, from March 25 to November 25 of last year, in the district of North-west London, bearing in mind the exceptional drought of last year M. L.

THE BUILDING TRADE

RECURRING DEFECTS: THEIR CAUSE, PREVENTION AND CURE.—XI

By J. R. TAYLOR.

INTERNAL PLASTERING.

By far the greatest number of defects in connection with internal plastering are caused by timber shrinkages and by the penetration of moisture from outside. There are, however, innumerable other causes, but before going on to enumerate the more common of them I will refer to the proportioning of material and methods of application in relation to the durability of the finished work.

Proportions.

Architects are much at variance in their specification of the proportions of lime, sand and hair and the age or seasoning of the putty lime. The following directions are taken almost haphazard from bills of quantities prepared by qualified surveyors for architects of repute :—

For a Secondary School.—Lime to be run at least six weeks. One of putty, two of sand, and one bushel of hair per yard cube of putty.

Large first-class Residence.—Lime run at least a month. One of putty, three of sand, and plenty of hair.

A Church.—Lime at least a month. One of putty, three of sand, 9 lb. of hair to cubic yard of mortar.

Residential Public School.—Lime fourteen days. One of putty, three of sand, 9 lb. of hair cubic yard (not stated whether putty or mortar).

A cheap Bungalow.—Lime at least six weeks. One of putty, two of sand, 14 lb. hair cubic yard mortar.

A Hospital.—Time not stated. One of putty, three of sand, 1 lb. hair, 3 cu. ft. mortar.

A Bank.—Lime three months. One of putty, 2½ parts sand, 9 lb. of hair yard cube of mortar.

Specifications presenting much greater contrasts are not infrequent, but I have taken the above examples because each of them is backed by good names.

H.M. War Department Specification is as follows:—

PLASTERING GENERALLY.—The "coarse stuff" for rendering or plastering (first coat) to be composed of one part of chalk (or "fat") lime to three parts of sand measured before slaking. Bullock's hair in the proportion of nine pounds to each yard cube of mixed mortar is to be added and well hooked into the mixture. The hair is to be long and clean, and to be well beaten before adding to the mortar.

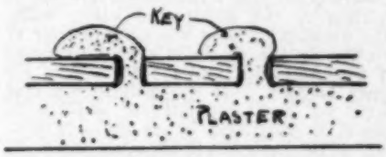
The floating coat (second coat in three-coat work) to be of "floating stuff," composed of one part of similar lime to two parts of sand measured before slaking. Hair, as described, is to be added for ceilings.

The setting coat of "fine stuff" to be composed of one part putty lime to one of sand.

Lime putty is to be prepared from chalk (or "fat") lime at least six weeks before required for use.

This specification does at least endeavour to ensure that the proportions of lime and sand as applied wet shall have some definite relation to the proportions when the work has dried out. It will be noted that only in the setting coat is the lime measured wet. After six weeks the proportions of lime to bulk of putty lime are much more definite than at an earlier stage, as any reader may verify for himself by noting the shrinkages in a bed of putty lime as time goes on. But even with this specification the proportions are variable on account of the curious behaviour of sand when moistened. Let the reader who has already noted the shrinkage in the putty lime bed now turn his attention to the sand. Let him take a bucket of sand from the heap, and he will find that by gently pouring he can add about half a bucket of water, sometimes more, without increasing the bulk. Turn it out and knock it up like mortar, and shovel it back into the bucket, and a lot of water will work up to the top, which, when poured off, will leave him with less than a bucketful of wet sand. Now let him bake this part bucket of sand, and when it is thoroughly dry turn it out and knock it up in this state. Refill the bucket, and he will find himself with some to spare. It will therefore be seen that the mixing of mortars as carried on outside the test-rooms is not an exact science, and that the weather, as in so many other building operations, has some bearing on the matter.

LATHING.—Before leaving the question of specification, I will quote the W.D. Schedule again:—"The wooden laths to be sawn laths ¼-in. by 1 in. Laths are to be fixed to break joint every three feet, with butt joints each end nailed, and not to overlap. They are to be fixed not less than quarter-inch nor more than three-eighths inch apart with 1-in. blued clout-headed nails."



WHEN LATHS TOO CLOSELY SPACED THE SWELLING BY REASON OF MOIST PLASTER CUTS NECKINGS OF KEY.

The important part of this specification is, first, the length of the nails. Lathing, as a rule, does not fail because the laths are too weak, but because the very thin, short wire nails draw. But of even greater importance is the strict attention given to the spacing. Even in the commonest of work the fault, as a rule, is that the laths are fixed too closely together, and not as one would surmise, more widely apart to save laths. The key of plastering on laths is more dependent on the mortar squeezing through and turning over on the back of the lath than on any adhesion to the wood. If the space is too little the connecting neck (see sketch) is too thin and is broken through with but very little vibration. It is also liable to be cut through by reason of the expansion or swelling of the laths when the wet mortar is applied to them. Laths are one of the very few articles of bone-dry timber that come on to the job and therefore swell more readily.

Thorough Mixing Necessary.

In the specification quoted it will be seen that the importance of the hair being clean and well hooked in is noted. Ordinarily, the hair as delivered to the builder is very dirty and is caked together. All this dirt should be got rid of by well beating the hair until it is clean, soft and springy when handled. This is often neglected, with the result that it will not mix properly, and can be found in small, compact pads in the finished work. It is not every builder's labourer who knows how to knock up a bed for the plasterers, and many failures result from poor mixing.

Key.

The adhesion between the separate coats of plaster is frequently less than that of the first coat to the wall surface owing to the scratching not being properly done. This is very noticeable when wallpapers are stripped; the painter frequently tears off quite a considerable area of skimming where in cheap work he strips loose paper dry, instead of the whole area wet. But far too often to be tolerable the first coat is deficient in adhesion due to the bricks presenting too smooth a surface, and sometimes because they were too dry when this coat was applied.

Comparatively few architects specify that new brickwork shall be raked out for key, and this results in the rougher mortar of the bricklayer projecting into the plastering, and as the building mortar contains all too frequently unslaked nodules of lime, "blowing" takes place. Many small brickworks have not an adequate plant for getting rid of lime found in the clay beds, and this also occasions blowing both in the plastering and in common facings. These pieces of unslaked lime may remain dormant over a considerable length of time; the prolonged rains of 1929-30 found them in buildings that had been up as long as ten years, and in one instance I counted over a hundred blow holes in the wirecut facings of a small house.

Penetration of rain and swelling of timbers as they affect plastering have already been dealt with, but there is one other case of expansion not so often noted until well after the maintenance period has expired. Where iron mantelpieces are fixed the narrow strip of plaster between the jamb and the angle bead on chimney breast frequently gives way owing to the expansion and contraction of the ironwork.

Plugging. The amount of damage done by plugging walls is so great and the remedies are so comparatively simple that it is astonishing that more attention is not paid to this important matter. To make a building as nearly foolproof as possible, I suggest the inclusion of the following clause in the specification and bills of quantities: "Provide breeze fixing bricks of a size so much larger than the ordinary bricks that they will stand proud on the faces for easy recognition, or provide thoroughly dry elm pads twice coated with damp-resisting materials set with sufficient projection as to be discoverable after plastering. The builder is to exercise care and foresight in the building in of the joinery fixing slips and/or bricks as on no account will any plugging into the joints of the brickwork be permitted. Should any fixing pieces be afterwards required they shall be drilled into the bricks and not into the joints."

After inserting a clause of this sort the architect in order to justify it must come to a sufficiently early decision as to the nature and position of all fittings requiring fixing pieces as to permit the builder to make the necessary provision, but in order to guard against disputes as to liability for omission, the far-seeing quantity surveyor would take up a certain number of drilled pluggings *provisionally*. These provisional items are generally very carefully priced, because they cut both ways on final adjustment.

As it is for want of these or similar precautions, the key of plastering is very much weakened owing to plugging, particularly in half-brick walls, and because cavity walls find so much favour few are in ordinary domestic work in better case. With a row of plugs driven at skirting level while the work is green and another at picture-rail height, it is surprising that the work stands up to it at all, and not at all astonishing that failure follows.

Crazing.

When it was customary to paper almost all the walls of a small house, and the remainder, if not got up in Keene's for painting were coloured with size distempers, the ill-effects of crazing were not so obvious as under the hard washable water paints of to-day. Crazing may be due to defects in either material or method. It may result from the use of unsuitable sand; over trowelling either in an effort to get a very smooth face or because the operative has not acquired skill and speed; an overdose of plaster of paris given to hasten setting and other causes. But the most frequent of all causes is the speeding up, so often unwisely insisted upon, that results in the undercoats not having been properly seasoned before the final coat is applied. Where haste is of great importance, it is far better to use an alternative covering than to run the risk of the plastering being spoilt. The defects do not show up at an early stage, and it is nearly always impracticable to have them put right, because of the great inconvenience that would be entailed in stripping and replastering after decorations have been completed and possession been given. Many of the special or proprietary cements or plasterings give excellent results applied in two coats, and in the long run are much more economical.

Drying Out.

But even with the use of rapid hardening plastering, the decorations should not follow on too closely. The bulk of the water used in building should be given time to dry out. In large or important works, it is possible to hasten the process by the use of artificial methods, but on small works the additional cost entailed is generally prohibitive. At the same time, something may be done on an unambitious and economical scale by the use of "devils." Builders' buckets wear out and when they leak are discarded, not so much because they are absolutely useless, but because, though they might serve to carry mortar or some other purpose, they occasion inconvenience if taken on to a job in mistake. Pierced with a number of holes made with a sharp pick they make good fire-boxes. Filled with glowing coke and placed on an old galvanised sheet in the middle of each room, just before the workmen leave, they much expedite the drying out and are not costly to maintain. The consent of the insurance company should be obtained and the police informed, because the buckets may attract the notice of a passing tramp or vagrant. It is also a good plan to expedite the installation of the domestic hot-water supply, and even though central heating may form no part of the equipment, it is sometimes possible to arrange a temporary radiator or two in positions likely to do most good.

These measures, to be most effectual, should be dealt with as a provisional sum, and it should be explained to the client that the more fuel consumed in this way before he goes into possession, the less firing up he will need to indulge in after he enters. Also, that a cwt. of coke burnt in a "devil" in the centre of the room will do much more to dry his house than half-a-ton of coal in a fireplace, permitting most of the heat to go up the chimney.

(To be continued.)

Proposed New Clyde Bridge.

A new bridge, costing £116,614, is to be constructed over the Clyde at James-street, Glasgow. About 200 men will be employed for a period of two years on the scheme, and building operations will commence within a few weeks. The Divisional Road Engineer of the Ministry of Transport in Edinburgh has intimated to Glasgow Corporation that acceptance of a tender for the construction of the bridge by Sir William Arrol and Co. (Ltd.), Glasgow, has been approved. The new bridge will be a substantial structure of steel girders, rising from concrete cylinders, and will replace the wooden structure which at present does duty at this part of the Clyde.

THE BUILDING RESEARCH STATION

[We conclude below a series of questions and answers received from the Building Research Station, the first part of which was given in our last issue.]

Composition Floors.

An architect stated that clients wished to use composition flooring in a restaurant, kitchens and staff-dressing-rooms, as it was considered to be warmer to the feet than tiles. Some doubt was expressed as to the effect of grease upon such floors, and also of constant washing with water which is bound to contain soda.

Reply: It is assumed that reference is made to the jointless magnesium oxychloride type of flooring, which is usually maintained in a clean condition by wax polishing. Being absorbent, it is likely that grease or other staining agents which come in contact with the floor will leave marks which may be difficult to remove. The solubility of the constituents of floors of this kind precludes frequent washing as a means of maintenance. It should be borne in mind that magnesium oxychloride as ordinarily laid is very corrosive to metals with which it may come in contact, particularly iron and steel, and this fact is sometimes overlooked. Precautionary measures should be taken to safeguard against this danger, in order that damage may not be caused to pipes, etc.

Cavity Walls.

An architect calls attention to the controversial opinions commonly expressed in relation to the building of cavity walls. The question at issue was the propriety of ventilating the cavity in a wall composed of two half-brick leaves with a 2-in. air space between. It was pointed out that many text books stipulate that cavity walls should be ventilated by air-bricks or gratings at the base, also immediately under the eaves course, the ventilators being spaced 10 ft. apart. Other authorities consider the ventilation of cavity walls to be undesirable.

Reply:—The matter is undoubtedly controversial, and there appear to be reasonable arguments both for and against a system of ventilators of this kind. Although the matter has not been fully investigated the following appear to be the main points to consider.

The principal advantages claimed for the cavity wall are (1) improvement in heat insulating properties over a solid wall containing the same number of bricks. (2) The reduction in the danger of penetration of moisture from the outside due to the break in the capillary path from the outer to inner face. There can be no doubt whatever that these advantages are actually afforded in cavity wall construction, and it remains to be considered to what extent they are affected by a system of ventilation of the kind in question.

In the case of (1) it will be accepted that the heat-insulating value is mainly due to the inclusion of an air space in the cavity. Theoretically, the air should be still if the best insulation is to be afforded, but, in practice, there will be a complex system of convection currents which will reduce the value of the air space by conveying heat from the warm inner wall to the cold outer wall. It is a reasonable assumption that the provision of ventilators at the base and top of the cavity will result in a continuous movement of air through the cavity. Cold air will enter at the base, and, being heated by the warm face of the inner wall, will rise and pass out of the upper ventilator, and a fresh supply of cold air will enter to take its place. Carried to its logical conclusion it will be obvious that an efficient system of ventilators of this kind would ultimately result in an insulating value for the cavity wall little superior to that of a half-brick wall.

In the case of (2) it is not likely that the provision of ventilators will have a marked effect on the transfer of moisture from the outer to the inner face of the wall, although in wet weather the air in an unventilated cavity will probably be saturated with water vapour derived from the damp external wall. This raises the rather important consideration of the possible incidence of dry-rot in timbers embedded in the internal wall with end abutting on the cavity. It is desirable that timbers should not be embedded in this way, but it has to be recognised that in practice such a condition often arises, and it cannot then be denied that the condition of the air in an unventilated cavity may be favourable to dry-rot attack on joist ends.

However, all things considered, we think that perhaps more can be said for not providing air vents than for their use. There will probably be quite an appreciable air movement through unventilated cavities due to air leakage through joints, weep holes over window heads, etc., and we should feel inclined to rely on this.

NEW INVENTION

Electric Wall and Pillar Lamp.

The wall and pillar lamp shown in the accompanying illustration is claimed to be a new departure in electric lamp brackets. It is particularly suitable for fitting to panelled walls, and, being made in "Bakelite," it can be supplied in colours and imitation wood finishes. The bracket and shade are both moulded products, and the design of the lampholder, contact plugs, and connections, for which patents have been applied for, is entirely new. In addition to

its use for lighting effects in private houses the bracket would be an effective fitting for tea rooms, licensed premises, etc., and it is equally effective when fitted in the inverted position, when it is well suited for indirect lighting effects and cinema lamps. Architects and builders who wish to obtain a better idea of the effectiveness and numerous uses to which this fitting can be adapted are invited to inspect the display at the offices of Messrs. Silas Quaker, Ltd., 110, Park-street, Camden Town, N.W.1.

Wallpapers and Decorations.

The Board of Trade announce that in pursuance of Section 7 (1) of the Merchandise Marks Act, 1926, a draft Order in Council (the Merchandise Marks (Imported Goods) No. 9 Order, 1930) was laid before Parliament on June 25 requiring imported wall and ceiling papers and decorations to bear an indication of origin on sale or exposure for sale in the United Kingdom. Communications on the subject may be addressed to the Assistant Secretary, General Department, Board of Trade, Great George-street, S.W.1.

RATIONALISATION AND UNEMPLOYMENT

At the recent Conference of the British Association, Professor T. E. Gregory, Cassel Professor of Banking in the University of London, devoted his presidential address (which was read in his absence) to the Section of Economic Science and Statistics, to the relation between rationalisation and unemployment in technological industries.

He said that the current use of the new terms pointed to a shift in the centre of gravity of economic depression from problems of distribution to problems of production. The new and alien terms, rationalisation and technological employment, had created an unfortunate impression that the economic life of the world was being confronted by novel, vast and mysterious problems, of a kind hitherto unknown. The phenomena to be discussed were capable, he said, if not of exact, at least of fairly definite, statement. Throughout the world a conscious process of reorganisation was taking place, involving both the structure of industry and the methods of production. To this process the name of rationalisation had been given. It was many-sided, but among the characteristic results of the rationalinsation process were: a growing control over the market, a growing standardisation of process and output, and an increasing—in come cases, a very largely increasing—output per worker. These associated organisational and nachanical changes had, therefore, the result of economising the amount of labour directly required per unit of output, and—in so far as the distribution of goods over space and time was itself rationalised—of involving also a net reduction in the amount of labour required to place a unit of output in the hands of the final consumer.

Given this trend, the question arose: Would not the opportunity for finding employment in industries subject to these processes of change also undergo a change? In other words, did rationalisation inevitably bring with it unemployment due to the technological alterations involved? If the affirmative answer were given, then part of the existing volume of unemployment in Germany, the United States, and Great Britain was not due to causes local to the area concerned, such as the popular explanations that unemployment was due respectively to the gold standard or the pressure of reparations or the Wall-street slump, nor even to such general factors as the present fall in world prices, but must be directly ascribed to the technological or structural alterations which were taking place.

Undoubtedly, if unemployment was resulting from technological changes, the social problem of dealing with it was greatly aggravated by the existence of other local and general causes of unemployment. But we were not entitled to assume that when the local causes making for unemployment had disappeared we should then find ourselves with unemployment reduced to some pre-war "normal," for there was reason to suppose that in the immediate future the rationalisation process would come to an end. If rationalisation did not cause unemployment, the post-war "normal" might be higher, perhaps considerably higher, than the pre-war one. Thus, in the final analysis, we were face to face with the curious result that one of the most popular of all remedies for unemployment might in itself be one of the causes producing the evil for which a remedy was to be found.

In a final summary, the President emphasised the following practical conclusions:—

Since the rationalisation movement is international in character, and, since it undoubtedly results in most cases in a reduction of cost per unit of output, no single country engaged in international trade under competitive conditions can hope to contract out of its consequences, good and bad, except at the expense of its international trade. This is in itself a sufficient reason for pushing on with rationalisation in this country.

In the short run, rationalisation is not a remedy for unemployment, but, on the contrary, is itself a factor in making for unemployment, except to the extent that it stimulates demand in the constructional and equipment industries. But since a loss of markets due to progressive reductions in prices by rationalised industries in other countries also adds to the volume of unemployment in this country, the short-run evil of unemployment in this country changes in character, rather than grows in volume. Industries are in part depressed because local costs of production are too high and unemployment ensues.

Rationalisation reduces costs, but, until the lower costs have helped the industries in question to regain their market, and expand it, unemployment will remain. But unemployment resulting from rationalisation is a lesser evil than unemployment resulting from relative inefficiency.

In the long run, since rationalisation effects a lowering of real costs, then, given a desire for a rising standard of life, there is no reason to suppose that the volume of unemployment will not again fall. But, in the absence of any definite knowledge of the elasticities of demand for different products, we cannot tell in what directions increased demand for labour will manifest itself.

Both American and British experience would seem to show that the demand for labour in the existing body of industries is likely to shrink, absolutely in relation to the population, relatively in relation to the output; while every increase in the technical knowledge available to industry will make the demand for labour in relation to output smaller in the new industries, the rise of which we have every reason to suppose (to judge from past experience) will accompany reductions in real costs in the existing industries. Thus the occupied population in the future is likely to be less "industrialised" than in the immediate past, and the growth of trades and occupations outside the narrow concept of "industry" will continue as rationalisation proceeds.

The most optimistic view of the situation must take into account the fact that a grave transfer problem is involved, and that monetary and other circumstances having nothing directly to do with the rationalisation problem may accentuate the difficulties of transition. The first and most obvious step in the direction of amelioraffive measures must, therefore, be an increase in the mobility of the working population.

A shorter working day and higher wage rates are, of course, frequently defended, not on the legitimate ground that society can afford them with increasing productive powers, but on the ground that they are direct means for reducing unemployment, because they "spread work" and stabilise "working-class purchasing power." Unless accompanied by increasing productivity, however, they are incapable of achieving these results; for a shorter working day without a larger output would either involve lower wages or rising costs per unit, and rising money wages without increasing productivity would also result in disequilibrium.

But, given increasing productive powers, it is possible to lower prices to the consumer and pay the same wages as before for a shorter day, or, with the same lower cost to the consumer, pay a higher wage for the same working day. Growing productivity, in fact, gives society a margin to "play with," and this margin is the source out of which unemployment can be relieved. But we have no right to assume that process works without friction, or that the fears of the workers are based entirely on "prejudice and error."

In the end, one must rest one's hopes on the known elasticity and responsiveness of capitalistic society: an organisation which was capable of surviving the shocks of the war and post-war period is hardly likely to perish because it is learning to turn the arts of production to still better use in the future than it did in the last 150 years.

BUILDING TRADE WAGE STANDARDS

A SPECIAL conference of the executives of the various unions in the building industry has been called for September 26 in London, when, it is understood, action to press claims which have been formulated since the last wage reduction under the sliding scale will be considered. It is possible that the relations between employers and operatives may lead to the National Federation of Building Trades Operatives giving six months' notice to terminate the present national agreement governing conditions and wages in the industry.

The alterations approved by the Operatives include the following:—Displacement of the existing sliding scale basis by the stabilisation of present rates; payment for time lost through inclement weather or other unavoidable causes; and a five-day week. In addition, the operatives propose to retain national control of hours.

The Employers' Federation considered these proposals impossible with 100,000 men unemployed. They tabled the following counter-proposals:—No increase of wage rates or stabilisation of the existing rates; hours to be determined on a regional instead of national basis; the classification of labourers into three grades, with differing rates of pay; painters to be classified in two grades. What they have suggested regarding the classification of labourers is a grading of men, with different rates of wages for "fetchers and carriers," builders' labourers, who attend directly upon and assist the mechanics, and "specialised" labourers, such as timbermen, scaffolders and well-sinkers. This would be a recognition that some labourers have more arduous work to perform and work which involves more skill than the average. Differentiation of rates for painters already exists in certain localities, and this, it is pointed out, is no new subject, but has been under discussion for several years.

Should the conference of unions next week decide to give notice to end the agreement, we understand that this would mean little more than a taking of freedom to submit definitely a new programme, and six months would normally be available for negotiation.

NEW CINEMAS

Camberwell, S.E.—Alterations and additions are being carried out at the Purple Picture House, Walworth-road, S.E., by Messrs. Townsend (Builders), Ltd., Dean-street, W., to the plans prepared by Messrs. Emden, Egan and Co., architects. Messrs. Young and Co., 6, Queen Anne's Gate, Westminster, S.W.1, are supplying the steelwork.

Chester-le-Street.—A contract for the erection of a new cinema on the Old Brewery site to accommodate 1,000 persons (architect Mr. A. H. Fennell, Bridge End Chambers), has gone to Messrs. H. F. Mole, Chester-le-Street.

Greenwich.—We learn that the Greenwich Hippodrome is shortly to be demolished, and a large super-cinema erected in its stead. The architect will be Mr. George Coles, F.R.I.B.A., 40, Craven-street, Strand, W.C.2.

Middleton (Lancs).—Plans have been approved for structural alterations to the Palace Kinema, Manchester Old-road. The architect is Mr. Albert Winstanley, 15, Gt. Ducie-street, Manchester.

A Correction.

Owing to a typographical error a mistake occurred in the article on "The Housing Act, 1930," given in our issue for September 5. The first sentence in column three should read: "It is very important to note that the Memorandum states that rent relief should"—and then continue as printed.

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/8½	1/8½	1/8½	1/6½	1/8½	1/8½	1/6½	1/2
Accrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Aldershot	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Alfreton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Alnwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Altrincham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ashford (Kent)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Ashington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ashton-under-Lyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Aylsham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barnstaple	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/0½
Barrow-in-Furness	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Basingstoke	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0
Bath	1/5½	1/6½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Berwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bexhill	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/5½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/3½
Birmingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bishop Auckland	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Blackburn	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Blackpool	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bognor Regis	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bolton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bradford-on-Avon	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Braintree	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Brentwood	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bridgwater	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bridlington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromsgrove	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bromyard	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bungay	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Burnley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Burton-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Cardiff	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Carlisle	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cheltenham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chesterfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chorley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cirencester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Clacton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cranbrook	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cromer	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Darlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Deal	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Devizes	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Dewsbury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Doncaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dorchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Dorking	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Dovercourt	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Driffield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Droitwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
E. Glam. (Mon. Val.)	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ely	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Exeter	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Exmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Fakenham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Felixstowe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Folkestone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Frome	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Glossop	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Goole	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Gosport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grantham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Great Yarmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Grimsby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Guildford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Halifax	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harpenden	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Harrogate	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hartlepools	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hastings	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hereford	1/5	1/6	1/5	1/5	1/5	1/4	1/5	1/0½
Herne Bay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/4½	1/6½	1/4½	1/4½	1/6½	1/4½	1/4½	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Huddersfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hull	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hunstanton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huntingdon	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Isle of Wight	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Ipswich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Keighley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
King's Lynn	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Leicester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leamington Spa	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Leeds	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leicester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leighton Buzzard	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Littlehampton	1/4	1/6	1/4	1/4	1/4	1/4	1/4	1/0½
Liverpool	1/8½	1/8½	1/8½	1/9½	1/8½	1/8½	1/8½	1/3½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
London:								
12 m. radius	1/8½	1/8½	1/8½	1/8½*	1/8½	1/8½	1/7½	1/3½
12-15 m. radius	1/8	1/8	1/8	1/8*	1/8	1/8	1/7	1/3
Loughborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Lowestoft	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Luton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Macclesfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2·
Maidstone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Malvern	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Manchester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Mansfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Margate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0·
Market Harb'rough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Matlock	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Melton Constable	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11·
Melton Mowbray	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Merthyr Tydfil	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2·
Middlesbrough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newark	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0·
Newcastle-on-Tyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newcastle-ur-Lyme	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
New Forest	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0·
Newmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newport, Mon.	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Northampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Nuneaton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oakham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0½
Oldham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Paignton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Peterborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Pontypridd	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2½
Portsmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Preston	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ramsgate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Reading	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Redcar	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Redditch	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Reigate	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Retford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ripon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2½
Rochdale	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Rochester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rugby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Saffron Walden	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sawbridgeworth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Saxmundham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Scarborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sevenoaks	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sheffield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sittingbourne	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Southampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southend-on-Sea	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
South Shields	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stevenage	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stockport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stockton-on-Tees	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stoke-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourbridge	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stowmarket	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Stratford-on-Avon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4	1/0½
Sunderland	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swaffham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Swansea	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Tamworth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Taunton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Thetford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Trowbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Uttoxeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsden	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warminster	1/2½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Warrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wells (Norfolk)	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Welwyn Gar. City	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Bromwich	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Weston-sup-Mare	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Weymouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Whitby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wigan	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Winchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Windsor	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wisbech	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wolverhampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Woodbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Worcester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worksop	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Worthing	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Wrexham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wycombe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wymondham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
York	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½

* The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, is 1/11½ per hour.

For Building Trade wages in Scotland, see page 502.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor D.S.; Clerk, C.; Town Clerk T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer E.; Borough Architect, B.A.; Architect, A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

SEPTEMBER 22.

Baildon.—Conversion.—Of w.c.s at Baildon Sandal Council school, for Baildon District Sub-committee. B. Leah, Education Office, Bingley.

Banbury. — Fencing. — Wrought-iron gates, wrought-iron fencing and park seats, for Corporation. B.S., Prudential-chambs.

Barkingside. — Exterior Painting. — Of houses and flats, for Ilford T.C. Town Clerk, Town Hall, Ilford. Dep. £2 2s.

Birmingham.—Building.—Alterations to children's block at Dudley-rd. hospital, for T.C. Martin & Martin & W. H. Ward, architects, 106, Colmore-row. Dep. £2 2s.

Bradford.—Lighting.—For (1) electric lighting-various schools; (2) extension to school for myopes, Daisy Hill; and (3) drainage and levelling, Carbottom-rd., for E.C. City Architect.

Brentford and Chiswick.—Houses.—Two houses and 4 flats at Fraser-st., Chiswick, for U.D.C. Edward Wills, E. and S. Dep. £2.

Chester.—Flooring.—Relaying wood block floors in three classrooms at Hunter-st. school, for E.C. City S.

Doncaster.—Stores.—New stores at Harworth and new stores at Stainforth, for Co-operative Society, Ltd. T. H. Johnson & Son, A.R.I.B.A., architects.

Huddersfield.—Alterations.—To Commercial Hotel and rebuilding of shop premises in New-st. and High-st. Stocks, Sykes & Hickman, architects and surveyors, 4, St. Peter's-st.

Redwood.—Houses.—11 dwelling-houses and 6 outoffices on lands of Redwood, near Lorrha, Birr, Co. Tipperary, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Rochford.—6 workmen's dwelling houses in parish of Great Wakering, for R.D.C. A. C. Madge, S. Dep. £1 1s.

Romsey.—Redecoration.—Of Council chamber at Town Hall, for T.C. B.S.

Southmolton.—Cottages.—Eight homes at Southmolton. R. Louis Riccard, solicitor, Southmolton. Dep. £1 1s.

Wednesbury.—Painting.—Also decorating Council Chambers, municipal offices, corridors, etc., in Town Hall, for T.C. A. Booth, B.E. and S. Dep. £1 1s.

Weymouth.—Painting.—External cleaning, painting, etc., of 100 houses on Westham housing site, for Corporation. R. W. Vine, B.S. and E.

SEPTEMBER 23.

Armagh.—Cottages.—163 labourers' cottages, for R.D.C. W. Calvert, clerk.

Belfast. — Painting. — At Infectious Diseases Hospital, Purdysburn, for C.B. R. B. Donald, City S. (Architectural Department, Room 91), City Hall.

Belfast.—Excavation.—Excavation works on site of proposed central automatic telephone exchange, for Government of Northern Ireland. Secretary, Ministry of Finance, 15, Donegall-sq. West.

Bridlington.—Public conveniences. B.E. and S., S., Town Hall.

Culham.—Cottages.—4 pairs, at Sandford-on-Thames and 3 pairs at Stadhampton, for R.D.C. A. B. West, architect, Knowl, Abingdon. Dep. £2 2s.

Dublin.—Warehouse.—Addition to tobacco warehouse "A" at Custom House docks, for Dublin Port and Docks Board. E. H. Bailey, secretary, Port and Docks Office. Dep. £1.

Gosforth.—Houses.—16 5-roomed houses, 45 4-roomed houses, and 36 3-roomed houses on Kenton-rd. North housing estate, for U.D.C. G. Nelson, architect to Council. Dep. £5 5s.

Liverpool.—Painting.—Of offices, corridors, staircase, etc., at Central Police Buildings, Dale-st., for T.C. Land Steward and Surveyor.

Wellingborough.—Houses.—48, on Croyland-rd. estate, for U.D.C. E. and S. Dep. £1 1s.

SEPTEMBER 24.

Blackwell.—Houses.—28 houses and road and sewer in Blackwell, for R.D.C. H. Tatham, Sudbury, F.R.I.B.A., chartered architect, Rutland-chams. Ilkeston. Dep. £2 2s.

***Cheltenham.**—Houses.—63 non-parlour type, Folly-lane. T. Malvern, L.R.I.B.A., 21, Whitcomb-st. Dep. £2 2s.

Clontarf.—Repairs.—To houses at Seaview-av. and Victoria-rd., Clontarf, for the Irish Sailors' and Soldiers' Land Trust. G. J. Griffin, civil engineer 50, Upper Mount-st., Dublin. Dep. £1 1s.

Cuckfield.—Cottages.—6, near Crosspost, in parish of Bolney, for R.D.C. A. L. Robinson, S. Dep. £2 2s.

Dorchester.—Houses. Town Clerk, 21, North-sq. Dep. £2 2s.

Edinburgh.—Building.—New screening-house and chambers in connection with Corstorphine-Granton sewer, for T.C. B.E.

Edinburgh.—Garage.—Garage at cleansing depot, Great Junction-st., Leith, for T.C. E. J. MacRae, A.R.I.B.A., City Architect.

Hascior.—Painting.—External painting and decorating work at hospital at Hascior, near Evesham, for Evesham and Pershore District Smallpox Hospital Committee. T. A. Cox, clerk, North Terrace, Evesham. Dep. 10s. 6d.

Liverpool.—Houses.—202 non-parlour type and two shops on portion of Speke estate, for T.C. Director of Housing, Municipal Buildings, Dale-st. Dep. £1 1s.

London. — Garage. — New garage, workshops, stores and alterations to existing garage, Millfields-rd., for Hackney B.C. P. Holt, B.E. and S. Dep. £3 3s.

Plymouth.—Balconies.—Steel and concrete balconies at end of male and female wards, City Hospital, for T.C. J. Wibberley, City Engineer and Architect, Sun-bdgs.

Portslade.—Extension.—Of Telephone Exchange, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Prestwich.—Alterations.—To buildings at Town's-yd., for U.D.C. S. Dep. £1 1s.

Rochdale.—Painting.—Internal, in 70 houses on Turf Hill estate and 128 on Albert Royds-st. estate, for C.B. B.S.

SEPTEMBER 25.

Epping.—Block.—Administrative block at Isolation Hospital at Rood-st., near Epping, for R.D.C. W Beard, Building Surveyor, Harlow. Dep. £1 1s.

Glasgow.—Houses.—26, at Germiston, for T.C. D. Stenhouse, T.C.

Inverness.—Houses.—Three blocks of semi-detached four-apartment, on Maxwell-drive, for T.C. John G. Chisholm, 15, Union-st., and J. H. Gall & Son, Lombard-st., joint architects.

Ireland.—Building.—Station at Everies, Co. Cork; reconstruction of building at Balfon, Co. Carlow; reconstruction of building at Ballyglass, Co. Mayo; adaptations and improvements at Creeslough, Co. Donegal, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1 each.

Kingston-upon-Hull.—Lighting.—Electric light installation and fittings for Flinton-grove elementary school, for T.C. D. Harvey, A.R.I.B.A., City Architect. Dep. £1 1s.

Kingston-upon-Hull.—Painting.—Also cleansing, etc., at Chapman-st., Fenchurch-st. and Scarborough-st. depots, for T.C. D. Harvey, A.R.I.B.A., City Architect.

Landrake.—Hall.—Village hall at Landrake, St. Menhinick, chairman.

Leamington Spa.—Conveniences.—At Eagle Recreation ground, for T.C. S. Algar, Deputy B.E.

London.—Extension.—To British Museum Newspaper Repository, Hendon, N.W., for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Manchester.—Additions.—To bowl-house at Gorton-pk., for T.C. City Architect. Dep. £1 1s.

Porthcawl. — Chapel. — Congregational chapel, Fenton-place, for Trustees. R. S. Griffiths & Partners, architects and surveyors, Tonypandy. Dep. £2 2s.

Radcliffe.—School.—New Central school for 960 scholars, together with clinic, etc., for E.C. W. Bradley, L.R.I.B.A., 8, Acresfield, Bolton. Dep. £3 3s.

SEPTEMBER 26.

Apuldram. — Cottage. — At Apuldram, near Chichester, for West Sussex C.C. Haydn P. Roberts, F.R.I.B.A., County Architect, North-st., Chichester.

Lincoln.—Extensions.—To Spring Hill Council School, for E.C. S. C. Baggott, City S. Dep. £2 2s.

Southend-on-Sea.—Painting.—Cleaning and painting one hundred and ten houses, for C.B. R. H. Dyer, B.E. Dep. £1.

SEPTEMBER 27.

Bishop Auckland.—Hall.—Dining hall of framed construction, together with minor alterations to grammar school, for Durham County E.C. F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

Blandford Forum.—Houses.—24 non-parlour, in blocks of four on Corporation building site on Langton-rd., for T.C. L. Tait, B.S. Dep. £2 2s.

Chailey.—Houses.—6, for R.D.C. Clerk, Council Offices, Albion-st., Lewes. Dep. £1 1s.

Hatfield.—Repairs.—Alterations, general repairs, etc., and redecorations at Poor Law Institution, for Hertfordshire C.C. H. F. Mence, L.R.I.B.A., 43, Upper Lattimore-rd., St. Albans. Dep. £3 3s.

Near Dudley.—Installation.—Electric light in Rookery-lane Senior Mixed New Council School, Pensnett, near Dudley, for Staffordshire E.C. Moffett, Rosher and Mann, consulting engineers, Union-chambs., Temple-row, Birmingham. Dep. £5 5s.

Penzance.—Alterations.—To existing shop premises 28-29, Market-pl., Penzance. Timothy Whites (1929), Ltd. (Construction Department), 30, Chandos-st., Portsmouth.

Salford.—Extension.—To switch house building at Agecroft power station, for T.C. City Electrical Engineer, Electricity Department, Frederick-rd.

Shipley.—Extensions to Otley-rd. Council school, for E.C. S., Somerset House, Shipley.

Wrexham.—Wiring.—Of 173 houses in course of erection on Holt-rd. housing site, for T.C. J. W. Williams, Borough Electrical Engineer, Electricity Works, Willow-rd.

SEPTEMBER 29.

Bootle.—Houses.—229 in terraces and pairs, on land south of Aintree-rd., and east of Fernhill-rd., for C.B. B.E. and S. Dep. £2 2s.

Burton-upon-Trent.—Housing.—Thirty-four non-parlour in Gordon-st., for T.C. George T. Lynam, B. E. and S.

Glasgow.—Baths.—Baths and washhouses at Wolseley-st., for T.C. D. Stenhouse, T.C.

Harpenden.—Houses.—22, on Westfield estate, for U.D.C. Wm. H. Johnson, S. Dep. £2 2s.

Horncastle.—Houses.—Alternatively one pair of parlour type houses and one pair of non-parlour type, or two pairs of each type, for U.D.C. V. Weeber, S., Foundry-st. Dep. £1 1s.

Keadue.—Additions.—Also alterations to Tuberculosis Hospital, for Cavan County Board of Health and Public Assistance. Engineer, Board-room, County Home, Cavan. Dep. £2 2s.

Southampton.—Housing.—217 houses on Bassett Green housing site, for C.B. B.E., 33, French-st. Dep. £4 4s.

West Riding. — Building. — Caretaker's house; boundary walls and railings; cycle hut and store, and laying out of tennis courts and cricket pitch, and water supply, at Chelmsford Mining and Technical Institute, Dinnington, near Sheffield, for C.C. Education Officer, County Hall, Wakefield.

SEPTEMBER 30.

Drogheda.—Houses.—Eight, at Drogheda, Co. Louth, for Irish Sailors' and Soldiers' Land Trust. W. J. Brown, F.R.I.B.A., 50, Upper Mount-st., Dublin. Dep. £5 5s.

Dundalk.—Houses.—Constructing streets and footpaths; providing and laying sewers, drains and water mains; clearing, cutting, filling and levelling of sites of houses, sites of streets, and sites of forecourts and land surrounding houses, as indicated; fencing, etc.; and erection of 18 houses on Pigeon House-rd. site; 19 on Demesne-rd. site, off Park-st.; and 7 houses on Dublin-st. site, for U.D.C. M. Sellars, Town Surveyor.

Pontefract.—Repairs.—Painter's work and general repairs at West Riding Tuberculosis Dispensary, for West Riding C.C. West Riding Architect, County Hall, Wakefield.

Rugby.—Greenhouse.—Pulling down of greenhouse at 31, North-st., and its re-erection in the Caldecott park, for the U.D.C. J. H. Sharp, S.

Skipton.—Conveniences.—At Grassington, for R.D.C. A. Rodwell, S., 16, Gargrave-rd.

Weston-super-Mare.—Houses.—32 semi-detached parlour type houses in Osborne-rd., for U.D.C. H. A. Brown, E. & S. Dep. £3 3s.

OCTOBER 1.

***Beckenham, Kent.**—Demolition.—Old rectory, Church-av., and clearance of site, for U.D.C. C. Eric Staddon, Clerk of Council, Council Offices.

Kiveton Park.—Replacement.—Of existing eaves, gutters and rain water pipes at 186 houses in parishes of Harthill and Wales, for R.D.C. S.

Sidmouth.—Telephone Exchange.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

OCTOBER 2.

Garston, Watford.—Extension of Laboratory.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

OCTOBER 3.

***Lambeth.**—Painting, etc.—External cleaning, painting and repair at Lambeth Hospital, Brook-st., S.E.11 for L.C.C. Clerk of Council, County Hall, Westminster Bridge, S.E.1. Dep. £1.

Westcotes, Leicester.—Telephone Exchange.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

OCTOBER 4.

Woking.—Cottages.—Ten pairs in Courtenay-rd., for U.D.C. G. J. Wooldridge, E. and S.

OCTOBER 6.

Ruislip (Northwood).—Internal decoration, for the U.D.C. Clerk, Council Offices, Northwood. Dep. £2.

***Southend.**—Home.—Home for domestic staff at the Borough Sanatorium, Balmoral-rd., Southend-on-Sea. Dep. £2. H. J. Worwood, Town Clerk, Town Clerk's Office.

OCTOBER 7.

***London.**—Flats.—36, on site in Garratt-lane, Tooting, S.W., for Wandsworth B.C. G. L. Elkington, A.R.I.B.A., Norfolk House, 7, Laurence Pountney-hill, E.C.4. Dep. £2 2s.

***Yorks.**—Demolition.—Barrack buildings at the Castle, Richmond, for Contracts Branch, H.M.O.W., King Charles-st., S.W.1. Dep. £1 1s.

OCTOBER 8.

***Harrow.**—Store.—At Wealdstone, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

***Limehouse.**—Dwellings.—Block No. 3, consisting of 20 dwellings, at Limehouse Fields, for Stepney B.C. W. L. MacCarty, Town Clerk, Municipal Offices, Raine-st., Old Gravel-lane, E.1. Dep. £3.

OCTOBER 9.

***Wolverhampton.** — Telephone Exchange. — For H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Accrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Aldershot	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Alfreton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Alnwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Altrincham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ashford (Kent)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Ashington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ashton-under-Lyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Aylsham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barnstaple	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/0½
Barrow-in-Furness	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Basingstoke	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Berwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bexhill	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2½
Birmingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bishop Auckland	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Blackburn	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Blackpool	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bognor Regis	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Bolton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bradford-on-Avon	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Braintree	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Brentwood	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bridgwater	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bridlington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromsgrove	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bromyard	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11
Bungay	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Burnley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Burton-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Cardiff	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Carlisle	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cheltenham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chesterfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chorley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cirencester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Clacton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cranbrook	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cromer	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Darlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Deal	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Devizes	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Dewsbury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Doncaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dorchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Dorking	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Dovercourt	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Driffield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Droitwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
E. Glam. (Mon. Val.)	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ely	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Exeter	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Exmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Fakenham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Felixstowe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Folkestone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Frome	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Gleneop	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Godalming	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Goole	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Gosport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grantham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Great Yarmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Grimsby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Guildford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Halifax	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harpenden	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Harrogate	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hartlepools	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hastings	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hereford	1/5	1/6	1/5	1/5	1/5	1/4	1/5	1/0½
Herne Bay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Huddersfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hull	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hunstanton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huntingdon	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Isle of Wight	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Ipswich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Keighley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
King's Lynn	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Lancaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Leamington Spa	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leeds	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leicester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leighton Buzzard	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Littlehampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0½
Liverpool	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/3½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
London:								
12 m. radius	1/8½	1/8½	1/8½	1/8½*	1/8½	1/8½	1/7½	1/3½
12-15 m. radius	1/8	1/8	1/8	1/8*	1/8	1/8	1/7	1/3
Loughborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Lowestoft	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Luton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Macclesfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Maidstone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Malvern	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Manchester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Mansfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Margate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Market Harborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Matlock	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Melton Constable	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Melton Mowbray	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Merthyr Tydfil	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Middlesbrough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newark	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Newcastle-on-Tyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newcastle-ur-Lyme	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
New Forest	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Newmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newport, Mon.	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Northampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Nuneaton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Oldham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Paignton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Peterborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Pontypridd	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Portsmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Preston	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ramsgate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Reading	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Redcar	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Redditch	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Reigate	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Retford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ripon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2
Rochdale	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Rochester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rugby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Saffron Walden	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sawbridgeworth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Saxmundham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11
Scarborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sevenoaks	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sheffield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sittingbourne	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Southampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southend-on-Sea	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
South Shields	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stevenage	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stockport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stockton-on-Tees	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stoke-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourbridge	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stowmarket	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11
Stratford-on-Avon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4	1/0½
Sunderland	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swaffham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Swansea	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Tamworth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Taunton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Thetford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Trowbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Uttoxeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsden	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warminster	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Warrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wells (Norfolk)	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Welwyn Gar. City	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Bromwich	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Weston-sup-Mare	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Weymouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Whitby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wigan	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Winchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Windsor	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wisbech	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wolverhampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Woodbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Worcester	1/6	1/6?	1/6	1/6	1/6	1/6	1/6	1/1½
Worksop	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Worthing	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Wrexham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wycombe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wymondham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11
York	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½

* The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, is 1/11½ per hour.

For Building Trade wages in Scotland, see page 502.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor D.S.; Clerk, C.; Town Clerk T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

SEPTEMBER 22.

Baildon.—Conversion.—Of w.c.s at Baildon Sandal Council school, for Baildon District Sub-committee. B. Leah, Education Office, Bingley.

Banbury. — Fencing. — Wrought-iron gates, wrought-iron fencing and park seats, for Corporation. B.S., Prudential-chambs.

Barkingside. — Exterior Painting. — Of houses and flats, for Ilford T.C. Town Clerk, Town Hall, Ilford. Dep. £2 2s.

Birmingham.—Building.—Alterations to children's block at Dudley-rd. hospital, for T.C. Martin & Martin & W. H. Ward, architects, 106, Colmore-row. Dep. £2 2s.

Bradford.—Lighting.—For (1) electric lighting-various schools; (2) extension to school for myopes, Daisy Hill; and (3) drainage and levelling, Carbottom-rd., for E.C. City Architect.

Brentford and Chiswick.—Houses.—Two houses and 4 flats at Fraser-st., Chiswick, for U.D.C. Edward Wills, E. and S. Dep. £2.

Chester.—Flooring.—Relaying wood block floors in three classrooms at Hunter-st. school, for E.C. City S.

Doncaster.—Stores.—New stores at Harworth and new stores at Stainforth, for Co-operative Society, Ltd. T. H. Johnson & Son, A.R.I.B.A., architects.

Huddersfield.—Alterations.—To Commercial Hotel and rebuilding of shop premises in New-st. and High-st. Stocks, Sykes & Hickman, architects and surveyors, 4, St. Peter's-st.

Redwood.—Houses.—11 dwelling-houses and 6 out-offices on lands of Redwood, near Lorrha, Birr, Co. Tipperary, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Rochford.—6 workmen's dwelling houses in parish of Great Wakering, for R.D.C. A. C. Madge, S. Dep. £1 1s.

Romsey.—Redecoration.—Of Council chamber at Town Hall, for T.C. B.S.

Southmolton.—Cottages.—Eight homes at Southmolton. R. Louis Riccard, solicitor, Southmolton. Dep. £1 1s.

Wednesbury.—Painting.—Also decorating Council Chambers, municipal offices, corridors, etc., in Town Hall, for T.C. A. Booth, B.E. and S. Dep. £1 1s.

Weymouth.—Painting.—External cleaning, painting, etc., of 100 houses on Westham housing site, for Corporation. R. W. Vine, B.S. and E.

SEPTEMBER 23.

Armagh.—Cottages.—163 labourers' cottages, for R.D.C. W. Calvert, clerk.

Belfast. — Painting. — At Infectious Diseases Hospital, Purdysburn, for C.B. R. B. Donald, City S. (Architectural Department, Room 91), City Hall.

Belfast.—Excavation.—Excavation works on site of proposed central automatic telephone exchange, for Government of Northern Ireland. Secretary, Ministry of Finance, 15, Donegall-sq. West.

Bridlington.—Public conveniences. B.E. and S., S., Town Hall.

Culham.—Cottages.—4 pairs, at Sandford-on-Thames and 3 pairs at Stadhampton, for R.D.C. A. B. West, architect, Knowl, Abingdon. Dep. £2 2s.

Dublin.—Warehouse.—Addition to tobacco warehouse "A" at Custom House docks, for Dublin Port and Docks Board. E. H. Bailey, secretary, Port and Docks Office. Dep. £1.

Gosforth.—Houses.—16 5-roomed houses, 45 4-roomed houses, and 38 3-roomed houses on Kenton-rd. North housing estate, for U.D.C. G. Nelson, architect to Council. Dep. £5 5s.

Liverpool.—Painting.—Of offices, corridors, staircase, etc., at Central Police Buildings, Dale-st., for T.C. Land Steward and Surveyor.

Wellingborough.—Houses.—48, on Croyland-rd. estate, for U.D.C. E. and S. Dep. £1 1s.

SEPTEMBER 24.

Blackwell.—Houses.—28 houses and road and sewer in Blackwell, for R.D.C. H. Tatham, Sudbury, F.R.I.B.A., chartered architect, Rutland-chams. Ilkeston. Dep. £2 2s.

***Cheltenham.**—Houses.—53 non-parlour type, Folly-lane. T. Malvern, L.R.I.B.A., 21, Whitcomb-st. Dep. £2 2s.

Clontarf.—Repairs.—To houses at Seaview-av. and Victoria-rd., Clontarf, for the Irish Sailors' and Soldiers' Land Trust. G. J. Griffin, civil engineer, 50, Upper Mount-st., Dublin. Dep. £1 1s.

Duckfield.—Cottages.—6, near Crosspost, in parish of Bolney, for R.D.C. A. L. Robinson, S. Dep. £2 2s.

Dorchester.—Houses. Town Clerk, 21, North-sq. Dep. £2 2s.

Edinburgh.—Building.—New screening-house and chambers in connection with Corstorphine-Granton sewer, for T.C. B.E.

Edinburgh.—Garage.—Garage at cleansing depot, Great Junction-st., Leith, for T.C. E. J. Mackae, A.R.I.B.A., City Architect.

Haselor.—Painting.—External painting and decorating work at hospital at Haselor, near Evesham, for Evesham and Pershore District Smallpox Hospital Committee. T. A. Cox, clerk, North Terrace, Evesham. Dep. 10s. 6d.

Liverpool.—Houses.—202 non-parlour type and two shops on portion of Speke estate, for T.C. Director of Housing, Municipal Buildings, Dale-st. Dep. £1 1s.

London. — Garage. — New garage, workshops, stores and alterations to existing garage, Millfields-rd., for Hackney B.C. P. Holt, B.E. and S. Dep. £3 3s.

Plymouth.—Balconies.—Steel and concrete balconies at end of male and female wards, City Hospital, for T.C. J. Wibberley, City Engineer and Architect, Sun-bdgs.

Portslade.—Extension.—Of Telephone Exchange, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Prestwich.—Alterations.—To buildings at Town's-yd., for U.D.C. S. Dep. £1 1s.

Rochdale.—Painting.—Internal, in 70 houses on Turf Hill estate and 138 on Albert Royds-st. estate, for C.B. B.S.

SEPTEMBER 25.

Epping.—Block.—Administrative block at Isolation Hospital at Rood-st., near Epping, for R.D.C. W. Beard, Building Surveyor, Harlow. Dep. £1 1s.

Glasgow.—Houses.—26, at Germiston, for T.C. D. Stenhouse, T.C.

Inverness.—Houses.—Three blocks of semi-detached four-apartment, on Maxwell-drive, for T.C. John G. Chisholm, 15, Union-st., and J. H. Gall & Son, Lombard-st., joint architects.

Ireland.—Building.—Station at Everies, Co. Cork; reconstruction of building at Ballon, Co. Carlow; reconstruction of building at Ballyglass, Co. Mayo; adaptations and improvements at Creeslough, Co. Donegal, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1 each.

Kingston-upon-Hull.—Lighting.—Electric light installation and fittings for Flinton-grove elementary school, for T.C. D. Harvey, A.R.I.B.A., City Architect. Dep. £1 1s.

Kingston-upon-Hull.—Painting.—Also cleansing, etc., at Chapman-st., Fenchurch-st. and Scarborough-st. depots, for T.C. D. Harvey, A.R.I.B.A., City Architect.

Landrake.—Hall.—Village hall at Landrake. E. Menhinick, chairman.

Leamington Spa.—Conveniences.—At Eagle Recreation ground, for T.C. S. Algar, Deputy B.E.

London.—Extension.—To British Museum Newspaper Repository, Hendon, N.W., for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Manchester.—Additions.—To bowl-house at Gorton-pk., for T.C. City Architect. Dep. £1 1s.

Porthcawl. — Chapel. — Congregational chapel, Fenton-place, for Trustees, R. S. Griffiths & Partners, architects and surveyors, Tonypandy. Dep. £2 2s.

Radcliffe.—School.—New Central school for 960 scholars, together with clinic, etc., for E.C. W. Bradley, L.R.I.B.A., 8, Accresfield, Bolton. Dep. £3 3s.

SEPTEMBER 26.

Apuldram. — Cottage. — At Apuldram, near Chichester, for West Sussex C.C. Haydn P. Roberts, F.R.I.B.A., County Architect, North-st., Chichester.

Lincoln.—Extensions.—To Spring Hill Council School, for E.C. S. C. Baggott, City S. Dep. £2 2s.

Southend-on-Sea.—Painting.—Cleaning and painting one hundred and ten houses, for C.B. R. H. Dyer, B.E. Dep. £1.

SEPTEMBER 27.

Bishop Auckland.—Hall.—Dining hall of framed construction, together with minor alterations to grammar school, for Durham County E.C. F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

Blandford Forum.—Houses.—24 non-parlour, in blocks of four on Corporation building site on Langton-rd., for T.C. L. Tait, B.S. Dep. £2 2s.

Chailey.—Houses.—6, for R.D.C. Clerk, Council Offices, Albion-st., Lewes. Dep. £1 1s.

Hatfield.—Repairs.—Alterations, general repairs, etc., and redecorations at Poor Law Institution, for Hertfordshire C.C. H. F. Mence, L.R.I.B.A., 43, Upper Lattimore-rd., St. Albans. Dep. £3 3s.

Near Dudley.—Installation.—Electric light in Rookery-lane Senior Mixed New Council School, Pensnett, near Dudley, for Staffordshire E.C. Moffett, Rosher and Mann, consulting engineers, Union-chambs., Temple-row, Birmingham. Dep. £5 5s.

Penzance.—Alterations.—To existing shop premises 28-29, Market-pl., Penzance. Timothy Whites (1928), Ltd. (Construction Department), 30, Chandos-st., Portsmouth.

Salford.—Extension.—To switch house building at Agecroft power station, for T.C. City Electrical Engineer, Electricity Department, Frederick-rd.

Shipley.—Extensions to Otley-rd. Council school, for E.C. S., Somerset House, Shipley.

Wrexham.—Wiring.—Of 173 houses in course of erection on Holt-rd. housing site, for T.C. J. W. Williams, Borough Electrical Engineer, Electricity Works, Willow-rd.

SEPTEMBER 29.

Bootle.—Houses.—229 in terraces and pairs, on land south of Aintree-rd., and east of Fernhill-rd., for C.B. B.E. and S. Dep. £2 2s.

Burton-upon-Trent.—Housing.—Thirty-four non-parlour in Gordon-st., for T.C. George T. Ingram, B. E. and S.

Glasgow.—Baths.—Baths and washhouses at Wolseley-st., for T.C. D. Stenhouse, T.C.

Harpenden.—Houses.—22, on Westfield estate, for U.D.C. Wm. H. Johnson, S. Dep. £2 2s.

Horncastle.—Houses.—Alternatively one pair of parlour type houses and one pair of non-parlour type, or two pairs of each type, for U.D.C. V. Weeber, S., Foundry-st. Dep. £1 1s.

Keadue.—Additions.—Also alterations to Tuberculosis Hospital, for Cavan County Board of Health and Public Assistance. Engineer, Board-room, County Home, Cavan. Dep. £2 2s.

Southampton.—Housing.—217 houses on Bassett Green housing site, for C.B. B.E., 33, French-st. Dep. £4 4s.

West Riding. — Building. — Caretaker's house; boundary walls and railings; cycle hut and store, and laying out of tennis courts and cricket pitch, and water supply, at Chelmsford Mining and Technical Institute, Dinnington, near Sheffield, for C.C. Education Officer, County Hall, Wakefield.

SEPTEMBER 30.

Drogheda.—Houses.—Eight, at Drogheda, Co. Louth, for Irish Sailors' and Soldiers' Land Trust. W. J. Brown, F.R.I.B.A., 50, Upper Mount-st., Dublin. Dep. £5 5s.

Dundalk.—Houses.—Constructing streets and footpaths; providing and laying sewers, drains and water mains; clearing, cutting, filling and levelling of sites of houses, sites of streets, and sites of forecourts and land surrounding houses, as indicated; fencing, etc.; and erection of 18 houses on Pigeon House-rd. site; 19 on Demesne-rd. site, off Park-st.; and 7 houses on Dublin-st. site, for U.D.C. M. Sellars, Town Surveyor.

Pontefract.—Repairs.—Painter's work and general repairs at West Riding Tuberculosis Dispensary, for West Riding C.C. West Riding Architect, County Hall, Wakefield.

Rugby.—Greenhouse.—Pulling down of greenhouse at 31, North-st., and its re-erection in the Caldecott park, for the U.D.C. J. H. Sharp, S.

Skipton.—Conveniences.—At Grassington, for R.D.C. A. Rodwell, S., 16, Gargrave-rd.

Weston-super-Mare.—Houses.—32 semi-detached parlour type houses in Osborne-rd., for U.D.C. H. A. Brown, E. & S. Dep. £3 3s.

OCTOBER 1.

***Beckenham, Kent.**—Demolition.—Old rectory, Church-av., and clearance of site, for U.D.C. C. Eric Staddon, Clerk of Council, Council Offices.

Kiveton Park.—Replacement.—Of existing eaves, gutters and rain water pipes at 186 houses in parishes of Harthill and Wales, for R.D.C. S.

Sidmouth.—Telephone Exchange.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

OCTOBER 2.

Garston, Watford.—Extension of Laboratory.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

OCTOBER 3.

***Lambeth.**—Painting, etc.—External cleaning, painting and repair at Lambeth Hospital, Brook-st., S.E.11 for L.C.C. Clerk of Council, County Hall, Westminster Bridge, S.E.1. Dep. £1.

Westcoates, Leicester.—Telephone Exchange.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

OCTOBER 4.

Woking.—Cottages.—Ten pairs in Courtenay-rd., for U.D.C. G. J. Wooldridge, E. and S.

OCTOBER 6.

Ruislip (Northwood).—Internal decoration, for the U.D.C. Clerk, Council Offices, Northwood. Dep. £2.

***Southend.**—Home.—Home for domestic staff at the Borough Sanatorium, Balmoral-rd., Southend-on-Sea. Dep. £2. H. J. Worwood, Town Clerk, Town Clerk's Office.

OCTOBER 7.

***London.**—Flats.—36, on site in Garratt-lane, Tooting, S.W., for Wandsworth B.C. G. L. Elkington, A.R.I.B.A., Norfolk House, 7, Laurence Pountney-hill, E.C.4. Dep. £2 2s.

***Yorks.**—Demolition.—Barrack buildings at the Castle, Richmond, for Contracts Branch, H.M.O.W., King Charles-st., S.W.1. Dep. £1 1s.

OCTOBER 8.

***Harrow.**—Store.—At Wealdstone, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

***Limehouse.**—Dwellings.—Block No. 3, consisting of 30 dwellings, at Limehouse Fields, for Stepney B.C. W. L. MacCarty, Town Clerk, Municipal Offices, Raine-st., Old Gravel-lane, E.1. Dep. £3.

OCTOBER 9.

***Wolverhampton.** — Telephone Exchange. — For H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

OCTOBER 10.

Newcastle-upon-Tyne.—Building.—Steel frame buildings for power station, at Dunston-on-Tyne, for Newcastle-upon-Tyne Electric Supply Co., Ltd. C. Skipsey, joint secretary, Carliol House, Newcastle-upon-Tyne. Dep. £2 2s.

***Southampton.**—Cottages, etc.—3 cottages at Mill-lane and a lodge at Broadlands, Ramsey, A. L. Roberts, County Architect, The Castle, Winchester. Dep. £1 1s.

Whitley.—Sanatorium.—Sanatorium of 14 beds at Mid-Yorkshire Institution, for the Board. F. Broadbent, F.R.I.B.A., Education Offices, Leeds. Dep. £1 1s.

OCTOBER 13.

Kingston-upon-Thames.—Houses.—140 non-parlour type in blocks of fours and pairs on Kingston housing estate, for T.C. B.E. Dep. £2 2s.

OCTOBER 14.

Traise.—Houses.—Thirty, for U.D.C. O. G. Tough, Town S. Dep. £2 2s.

OCTOBER 16.

Surrey.—Building.—At Brookwood Mental Hospital, near Coulsdon, for C.C. F. J. Hodgson, L.R.I.B.A., 201, High-st., Guildford. Dep. £3 3s.

NO DATE.

Clayton-le-Moors.—Offices.—Also extensions to works, for J. Broadley, Ltd. J. R. Ashworth, architect and surveyor, Peel-st., Accrington.

***Dartford.**—Alterations.—Alterations and additions, 33/35, High-st., for Timothy White (1928), Ltd., Timothy White (1928), Ltd., Construction Dept., 30, Chandos-st., Portsmouth.

Dundee.—Walls.—Also iron gates and railings required for boundary walls at widening of West Queen-st., Broughty Ferry, for Corporation. Quantity Surveyor, 91, Commercial-st.

***Durham.**—School.—Senior Council school at Whinney Hill, for E.C. Wm. R. Wilson, Secretary of E.C. 76, Sadler-st., Durham. Dep. £5 5s.

Essex.—Cottages.—Two detached cottages in parishes of Wickham Bishops and Tolleshunt Knights, for C.C. Chas. Lock, F.S.I., County Land Agent, 40, Duke-st., Chelmsford.

Great Harwood.—Library.—New branch library, of semi-permanent (timber-framed) construction, for Lancashire E.C. Stephen Wilkinson, F.R.I.B.A., County Architect, 16, Ribbleadale-place, Preston. Dep. £2.

Keighley.—Electrical Work.—In 100 houses, Highfield estate, R. Turner, Ltd., Bradford-st.

Knutsford.—Building.—Fire station and garages at rear of Council offices, Toft-rd., for U.D.C. S.

Lantgaredig.—House.—At Godor Farm, for Mr. Howells. T. G. Price, architect, 44, Rhosmaen-st., Llandilo.

Richmond (Yorks).—Rebuilding.—Of Talbot Hotel, Market-pl., for J. Smith's Tadcaster Brewery Co., Ltd. B. Wilson, architect and surveyor, High-st., Tadcaster. Dep. £2 2s.

Smethwick.—Heating.—Heating by electricity new secondary school for boys, for C.B. S. Childs, Director of Education, 215, High-st.

Stocksbridge.—Painting.—Wood and ironwork of "Friendship" hotel at Stocksbridge, near Sheffield. Also adjoining property, consisting of nine cottages, three shops, and outbuildings. T. E. Batty, "Friendship" Hotel, Stocksbridge, near Sheffield.

***Wandsworth.**—Flats.—36 flats at Garrett-lane, Tooting, for Council. D. A. Nicholl, Town Clerk, Council House, Wandsworth, S.W.18. Dep. £2 2s.

MATERIALS, etc.

SEPTEMBER 22.

Bolton.—Joiner's Materials, etc.—For the Corporation. Samuel Kinlay, Public Assistance Officer, 29, Mawdsley-st.

Ipswich.—Paints, etc.—For C.B. L. W. Greenhalgh, Chief Officer, Public Assistance Dept., 19, Tower-st.

Leatherhead.—Road Materials.—For U.D.C. S. R. Drake, S.

SEPTEMBER 24.

Rochdale.—Timber.—Columbian pine timber, for C.B. Wm. Henry Hickson, T.C.

SEPTEMBER 25.

Birkenhead.—Paints, etc.—For directors of Mersey Railway Co. J. Shaw, general manager and secretary, Central Station, Birkenhead.

SEPTEMBER 26.

Oldham.—Setts.—3,600-3,900 tons of grit setts, for S.B. B.E. and S.

SEPTEMBER 27.

Edinburgh.—Builders' Materials.—For Midlothian and Peebles District Asylum, Rosslynlee. C. L. Addison-Smith, W.S., clerk, 19, Heriot-row, Edinburgh.

SEPTEMBER 29.

Wombwell.—Road Materials.—For U.D.C. S.

SEPTEMBER 30.

Hindley.—330 lin. yds. 21-in. diameter concrete tubes, for U.D.C. T. Robey, clerk.

OCTOBER 2.

London.—Stone.—3,000 ft. super. of 2½-in. York paving stone, for Greenwich B.C. B.E., Royal-hill, S.E.10.

OCTOBER 4.

Laughton.—Highway Materials, etc.—For U.D.C. H. White, S.

ENGINEERING, IRON AND STEEL

SEPTEMBER 22.

Bantry.—Jetty.—Ferro-concrete piled jetty, for Cork C.C. R. F. O'Connor, C.E., Courthouse, Cork.

Blaen.—Mains.—Laying and jointing of about 2,237 yds. lin. 5-in. dia. and 2,191 yds. lin. 4-in. dia. and 313 yds. lin. 3-in. dia. cast-iron water mains with necessary valves, hydrants and other incidental works at Tyler Hill in parishes of Hackington or St. Stephens and Blean, for R.D.C. F. A. Ward, E. and S. Dep. £2 2s.

Malling.—Sewerage.—Sewage disposal works at Ditton, and main and subsidiary sewers in East Malling and Ditton, totalling approximately 8 miles, for R.D.C. W. O. Humphery, E., 17, London-rd., Hailsham. Dep. £10.

Newbury.—Sewerage.—Reconstruction of outfall works, for T.C. Howard Humphreys & Sons, consulting engineers, 28, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

Norwich.—Bridge.—Steel reinforcing bars for reinforced concrete bridge over River Wensum, for T.C. J. S. Bullough, City E.

Norwich.—Steelwork.—Compound girders and transverse beams for bridge over M. & G.N. Jt. Railway, for T.C. J. S. Bullough, City E.

Willenhall.—Widening.—Also reconstruction of bridge over L.M.S. Railway at Cemetery-rd. North, for U.D.C. G. A. Waite, E. and S.

SEPTEMBER 23.

Barking.—Sidings.—Excavation work amounting to about 60,000 cu. yds. and construction of new sidings extending to approximately 3,000 lin. yds. in connection with extensions to power station at Barking, for County of London Electric Supply Co., Ltd. Sir Alexander Gibb & Partners, Queen Anne's Lodge, Westminster, S.W.1. Dep. £5 5s.

Dublin.—Reconstruction.—In reinforced concrete of Butt bridge, for Dublin Port and Docks Board. J. Mallagh, Chief Engineer, Westmoreland-st. Dep. £10.

SEPTEMBER 24.

Blandford Forum.—Sewerage.—Construction of connections from various properties in Borough to newly-constructed sewerage system, including inspection chambers and other appurtenant works, for T.C. W. H. Radford and Son., civil engineers, Albion-chambs., King-st., Nottingham. Dep. £3 3s.

Maidstone.—Sewerage.—5,600 yds. of sewer varying from 6 in. to 15 in. diameter, with concrete manholes, etc., together with settling and storm-water tanks, percolating filter beds, pumping station, cast-iron rising main, machinery, and other incidental works at Bearsted, for R.D.C. Thos. A. Busbridge, E. and S. Dep. £3 3s.

SEPTEMBER 25.

Cannock.—Sewage.—Two detritus tanks, storm tank, two humus tanks, pump house and well, conversion of septic tanks into sedimentation tanks, alteration and extension of sludge beds, etc., and all incidental works at Brewood, for R.D.C. E.

Douglas, Isle of Man.—Weir.—Stream weir for measuring flow of water in Sulby River, near Tholt-e-Will bridge, for Local Government Board. H. R. Gelling, secretary, 29, Athol-st.

Godstone.—Drainage.—9-in. and 7-in. stoneware sewers of total length of about 7 miles, together with manholes, flushing tanks, ventilating shafts and other appurtenant works, at Limpsfield and Oxted, for R.D.C. John Taylor & Sons, engineers, Caxton House, Westminster, S.W.1. Dep. £5.

Southampton.—Bridge.—Construction of 5-span brick and concrete bridge, with flood arches over River Stour, at Iford, with embankment approaches and widening of portions of Iford, Pokesdown-rd., for C.C. W. J. Taylor, C.S., The Castle, Winchester. Dep. £5 5s.

SEPTEMBER 26.

Brandon and Bysshottle.—Sewage.—Laying about 1,400 lin. yds. of 9-in., 12-in. and 18-in. sewers, with necessary manholes and storm overflows; screening chambers, detritus tanks, gauge basin, sedimentation tank, dosing chamber, percolating filter, humus tanks, etc., near Browney Colliery, Langley Moor, for U.D.C. Taylor & Wallis, engineers, 1, Saville-pl., Newcastle-upon-Tyne. Dep. £5.

ESTIMATING ON RIGHT LINES

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Kingsbridge.—Widening.—Culvert in Poundwell-st., Modbury, for R.D.C. Norman Harris, S., 2, Knowle-ter.

Marlow.—Sewerage.—Sewage disposal works on site adjoining G.W.R. branch line to Marlow, for U.D.C. A. P. I. Cotterell & Son, engineers, 54, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

Rhondda.—Steelwork.—36 tons of bridge steelwork for reconstruction of Rhondda Fach bridge, for U.D.C. E. Taylor, E. and S.

SEPTEMBER 27.

Amesbury.—Sewerage.—1¼ miles of 6-in. diameter stoneware pipe sewers, with manholes, ejector chamber, pump wells, etc.; construction of tanks and filter beds at existing sewage farm; extension of existing engine house at pumping station, and other works, for R.D.C. Lemon & Blizard, engineers, Lansdowne House, Castle-lane, Southampton. Dep. £5 5s.

SEPTEMBER 29.

Carlisle.—Pipes.—Supplying and laying of about 4¼ miles of 18-in. diameter cast-iron pipes and subsidiary pipes from service reservoir at Cumwhinton to Carlisle, and construction of chambers, etc., for T.C. P. Dalton, A.R.I.B.A., City Water Engineer, 18, Fisher-st. Dep. £2 2s.

Dunfermline.—Bridge.—Demolition of properties and erection of ferro-concrete single arch road bridge and approaches over Glen between Damside-st. and Pittencrieff-st., for T.C. David H. Shaw, B.E. Dep. £2 2s.

Mynyddislwyn.—Steelwork.—For Ynysddu new bridge, for U.D.C. G. Wishart, E. and S. Dep. £2 2s.

Shipley.—Bridge.—In ferro-concrete, carrying pipe lines over River Aire at Shipley, for U.D.C. H. Dawson, engineer and architect. Dep. £3 3s.

Talybont.—Reconstruction.—Of bridge which crosses the Caerfanell River at Tanybont-on-Usk, for Breconshire C.C. J. M. Richards, C.S., County Offices, Watton, Brecon. Dep. £10.

SEPTEMBER 30.

Alexandria.—Bridge.—Swing bridge over Mahmudia Canal at Zargun Syphon, for Ministry of Public Works, Cairo. Department of Overseas Trade, 35, Old Queen-st., London, S.W.1. (Ref. No. A.X. 10,151).

West Lancashire.—Bridge.—Light steel bridge over River Douglas, at Tarleton, near Preston, for R.D.C. H. B. Ward, consulting engineer, 26, North John-st., Liverpool.

OCTOBER 1.

Egypt.—Tower.—Water-cooling system, i.e., cooling tower, reinforced concrete basin and two electric motor-pumping sets, together with necessary piping, for Egyptian Ministry of the Interior. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 9964.)

Newbury.—Sewerage.—Reconstruction of outfall works, for T.C. Howard Humphreys & Sons, consulting engineers, 28, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

Rugby.—Filters.—Rapid gravity filters, building and plant, for U.D.C. T. & C. Hawksley, civil engineers, 54, Old Queen-st., Westminster, S.W.1. Dep. £3 3s.

OCTOBER 2.

Ealing.—Widening.—Reconstruction and widening of Hanger-lane bridge over Acton and Northolt Line, near Brentham Halt, Ealing, for G.W.R. Engineer, Paddington Station, W.2.

OCTOBER 4.

Bangor (Ireland).—Drainage.—Construction of 3,700 yds. of 7 in., 9 in., 12 in., 15 in., 18 in., 21 in., and 27 in., stoneware and concrete tube sewers; 1,300 yds. of 48 in. by 32 in. concrete egg-shaped tube sewers, with manholes, etc., 1,150 yds. of 6 in. and 18 in. cast-iron pumping mains and 30 yds. of 30 in cast-iron outfall sewer; erection of 3 pumping stations, suction and pump chambers, storage tank, with screen house, etc., for T.C. John Taylor & Sons, Caxton House, Westminster, S.W.1. Dep. £5.

Thaksham.—Waterworks.—Sinking and construction of well, erection of engine and filter house with pumping machinery and filters, engineer's cottage, and supply, laying and jointing of about 8 miles 960 yds. of 6-in., 4-in. and 3-in. cast-iron socket pipes with their appendages, including all necessary sluice and air valves, hydrants and other works, for the water supply of parishes of Pulborough and West Chiltington, for R.D.C. H. Bertram Nichols, engineer, 13, Victoria-st., Westminster, S.W.1. Dep. £5.

West Riding.—Reconstruction.—Extension and strengthening of Brotherton flood arches, which carry Doncaster and Tadcaster County-rd. overland liable to floods between Ferrybridge Bridge and junction with Sutton-lane, near Brotherton, Pontefract, for C.C. West Riding Surveyor, County Hall, Wakefield. Dep. £1.

ROAD, SEWERAGE, AND WATER WORKS

SEPTEMBER 22.

Battle.—Mains.—Laying about 8,467 yds. of 4in. cast-iron water mains in Crowhurst, and about 1,475 yds. in Catsfield, with fire hydrants, etc., for the R.D.C. A. J. Jenner, E. and S. Dep. £2 2s.

Beddington and Wallington.—Making-up.—Of Woodcote-drive, Bute-gardens, and Elm-rd., for U.D.C. S. F. R. Carter, E. and S., 62, Woodcote-rd., Wallington. Dep. £1 1s.

Breconshire.—Road.—(a) Road diversion at Penrhos, and (b) widening at Ystradgynlais Cross, on Sennybridge-Gurnos-rd., for C.C. J. M. Richards, C.S., Watton, Brecon. Dep. £10.

Burnley.—Sewerage.—Providing and laying approximately 2,200 lin. yds. 9 in. earthenware pipes, approximately 100 lin. yds. 6 in. earthenware pipes, at Blacko, for R.D.C. F. Hewitt, E., 13, Nicholas-st.

Dun Laoghaire.—Widening.—Roadway at Dunleary Hill, for U.D.C. F. M. Webb, Town Surveyor. Dep. £2 2s.

Hazel Grove and Bramhall.—Sewerage.—920 lin. yds. of 9-in. to 24-in. stoneware pipe sewers, together with necessary manholes, street gullies, etc., in connection with surface water sewering of Moss-lane and Cromwell-rd., Bramhall, for U.D.C. G. Severn Doncaster, S. Dep. £2 2s.

Leiston-cum-Sizewell.—Making-up.—In reinforced concrete Carr-av., together with flagging, kerbing, etc., for U.D.C. L. A. Gornall, E. and S. Dep. £2 2s.

Plymouth.—Making-up of Beechwood-av.-lane No. 2, Lipson Hill-terr.-lane; Sussex-terr.-lane West, for T.C. J. Wibberley, City E. Dep. £2 2s.

SEPTEMBER 23.

Durham. — Reconstruction — Of South-st, in granite sett paving on reinforced concrete, etc., for T.C. J. W. Green, City E. and S. Dep. £2 2s.

Kingston-upon-Hull.—Levelling.—Levelling, draining, etc., playing field of proposed Rensburg-st. school, for T.C. R. C. Moore, Director of Education.

Ramsey.—Sewage.—135 tons of cast-iron pipes and special castings; also laying about 4½ miles of stoneware sewers from 6 in. to 12 in. in dia., with manholes, vent shafts, etc., for T.C A. J. Martin, 103, St. George's-sq., London, S.W.1. Dep. £3 3s.

Willesden.—Making-up.—Of Elm-way, for U.D.C. F. Wilkinson, E.

SEPTEMBER 24.

Huddersfield.—Sewers.—Providing and laying 9 in. to 21 in. diameter earthenware and cast-iron pipe sewers at Dryclough Valley sewer, Crosland Moor (approx length 1,145 lin. yds.), and new sewer from Beaumont-pk. to Meltham-rd., Lockwood (approx. length 205 lin. yds.), for C.B. B.E. and S. 1, Peel-st

Kingston-upon-Hull.—Road.—Construction in concrete of second carriageway on Willerby-rd., from Derringham Bank housing estate to City boundary, for T.C. T. Thomas, City E.

Kingston-upon-Hull.—Sewer.—Concrete sewer from Marfleet-lane to Holderness-rd., for T.C. T. Thomas, City E.

Kingston-upon-Hull.—Making-up.—Tar-paved footpaths on Stoneferry-rd., Ings-rd., Chanterlands-av. and Spring-bank West, for T.C. T. Thomas, City E.

Kingston-upon-Hull.—Widening.—Of Ings-rd. from Holderness-rd. to Cavendish-rd., for T.C. T. Thomas, City E.

London.—Surfacing.—With 3-in. coat of bituminous macadam in Tyrwhitt-rd., for Deptford B.C. H. Morley Lawson, B.E. and S.

SEPTEMBER 25.

Failsworth.—Improvements.—Road construction works required in connection with widening and improvement of part of Lord-lane, extending from Ashton-rd. West to Cemetery-rd., for U.D.C. J. W. E. Brown, E. and S.

SEPTEMBER 26.

Barrhead.—Roads.—Constructing roads and sewers on Arthurlee housing scheme, No. 2, for T.C. J. Pattison, T.C.

Harrogate.—Sewer.—9-in. foul-water sewer in Hookstone-rd., for Corporation. C. E. Rivers, B.E. and S.

SEPTEMBER 27.

Pembrokeshire.—Road.—Improvement of road at Windy Hill (Southlays), about 3¼ miles north of Haverfordwest, for C.C. A. H. Thomas, A.R.I.B.A., C.S. Dep. £5 5s.

Salop.—Road.—By-pass road and contingent works to south of Shrewsbury, approximately 4.13 miles in length, inclusive of final surfacing, for C.C. W. H. Butler, C.S., Shrewsbury. Dep. £5 5s.

Stafford.—Mains.—Laying and jointing only of about 1,250 yds. of 4-in. dia. and 335 yds. of 3-in. dia. cast-iron pipes and special castings and other works in connection therewith, for Corporation. W. Plant, B.E. Dep. £1 1s.

SEPTEMBER 29.

Adlington.—Sewer.—Sewer, with manholes and other appurtenant work, from sewage works to Westhoughton-rd., for U.D.C. S. Dep. £2 2s.

Hale.—Surfacing.—Of Shay-lane and Ask-lane, for U.D.C. C. P. Higginbotham, S. Dep. £1 1s.

Hemel Hempstead.—Sewerage.—12-in. sewer and heading underneath a railway, for R.D.C. Howard Humphreys and Sons, consulting engineers, 28, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

Hendon.—Making-up.—Of Hocroft-rd., Ranulf-rd., Queen's-gardens, Fairfield-av., The Riding, Tenterden-drive, Hocroft-av., Farm-av., Apsey-gardens, Powis-gardens, for U.D.C. A. O. Knight, E. and S. Dep. £5.

Southend-on-Sea.—Sewerage.—1,189 yds. of 33-in. concrete tube sewer, 207 yds. of 27-in., 455 yds. of 24-in., 504 yds. of 18-in., 460 yds. of 15-in. stoneware pipe sewers, 1,601 yds. of 12-in. and 1,367 yds. of 9-in. and incidental works, in Prince-av., Eastwood-rd. and Eastwood-lane, for Corporation. R. H. Dyer, B.E. and S. Dep. £2

SEPTEMBER 30.

Chester.—Sewerage.—Sewerage and preliminary road works on layout of the first portion of Lache housing estate, for T.C. Charles Greenwood, City E. Dep. £2 2s.

Coventry.—Sewer.—1,530 yds. of 5-ft. by 7-ft. 6-in. egg-shaped sewer; 840 yds. of 4-ft. 10-in. by 7 ft. 3-in. egg-shaped sewer; 1,215 yds. of 2-ft. 9-in. by 4-ft. egg-shaped sewer; 660 yds. of 2-ft. 6-in. by 3-ft. 9-in. egg-shaped sewer; and manholes and gauging chamber, reconstruction of Whitley pump sump, laying and jointing of some 70 yds. of 36-in diam. cast-iron pipes, and other incidental and auxiliary works at Finham, for T.C. E. H. Ford, City E. Dep. £5 5s.

London.—Paving.—Paving and forming roadway and footways of (a) Riverview Park, Catford, and (b) Ladycroft-rd., Lewisham, for Lewisham B.C. B.S.

OCTOBER 1.

Ealing.—Resurfacing.—Of Creffield-rd., for T.C. W. R. Hicks, B.E.

Ealing.—Improvements.—Of Scotch Common, Pitshanger-lane extension, for T.C. W. R. Hicks, B.E.

Hove.—Making-up.—Roadway, laying kerbing, chanelling and paying, and other works in connection, in St. Leonards-gardens, for T.C. T. R. Humble, B.S.

Maldon.—Paving.—Also kerbing footway on north side of High-st. from gas works to North-st., for T.C. B.E.

Westmorland.—Roads.—Kirkby Lonsdale by-pass rd. (cement concrete carriageway); London-Carlisle (A.6) rd. (widening from Sizergh to Kendal); and White Bridge, Grasmere (widening in ferro-concrete faced with stone), for C.C. County Engineer and Bridge Master, 12, Lowther-st., Kendal. Dep. £66.

OCTOBER 2.

London.—Paving.—Forming and paving portion of Weigall-rd., for Greenwich B.C. B.E. and S.

OCTOBER 3.

Fife.—Drainage.—Providing and laying about 4,000 yds. of fireclay sewers from 12 in. to 6 in diameter, with manholes and other relative works, at Crossfield, for Dunfermline D.C. of C.C. H. F. Hodge, M.Inst.C.E., District Engineer, Commercial Bank-bldgs., High-st., Dunfermline. Dep. £2 2s.

OCTOBER 4.

Long Eaton.—Making-up.—Of Bohem-rd., Spinney-rd., Dockholm-rd., Wellington-st. (part of), Derwent-st., Bonsall-st. (part of), Albion-rd., Devonshire-av., for U.D.C. H. Raven, E. and S. Dep. £2 2s.

Standish.—Reconstruction.—Of sewer manholes at Standish lower ground, for U.D.C. S.

OCTOBER 6.

Denbighshire.—Widening.—Also diversion of Abergele—Voryd Bridge road A.548, for C.C. E. A. Evans, C.S., 46, Clwyd-st., Ruthin. Dep. £5.

NO DATE.

Chelmsford.—Mains.—600 yds. 15-in. and 4,400 yds. 12-in. cast-iron main; 1,120 yds. 12-in. steel main and 900 yds. 3-in. steel main, together with necessary specials, for Corporation. F. N. Howes, engineer and manager, Gasworks, Chelmsford.

Public Appointments

SEPTEMBER 22.

Barnet.—Clerk of Works required by R.D.C. E. and S., Council Offices, Boreham Wood.

Leigh, Lancs.—Architectural Assistant. Town Clerk, Town Hall.

Northallerton.—Architectural Assistant. Clerk, County Hall.

SEPTEMBER 23.

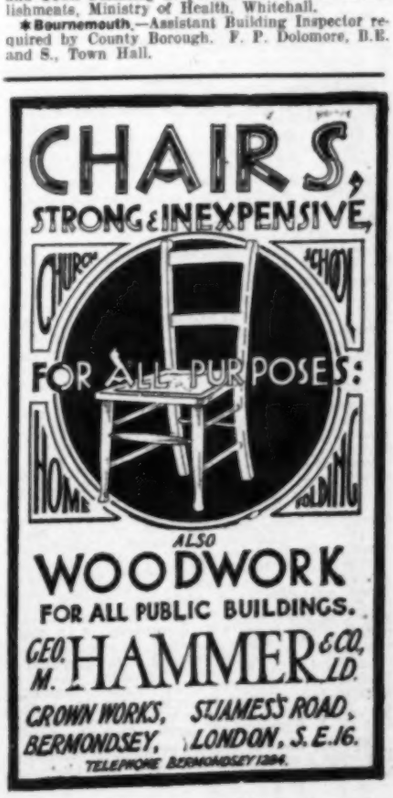
Derby. — Architectural Assistant. Borough Architect, Gower-st.

NO DATE.

***Bootle.**—Architectural Assistant required by C.B. of Bootle. J. Spencer Tumilty, T.C.

***London.**—Ministry of Health require Housing and Town Planning Inspector. Director of Establishments, Ministry of Health, Whitehall.

***Bournemouth.**—Assistant Building Inspector required by County Borough. F. P. Dolomore, B.E. and S., Town Hall.



PROPOSED NEW BUILDINGS AND OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board; Borough Surveyor. B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

Aberystwyth.—R.D.C. approved: Houses at Rhydypennau for D. W. Thomas; hall at Penrhyncoch for trustees of Baptist Chapel.

Aldershot.—T.C. to spend £200 on fencing recreation ground.—B.S. to prepare plans and report on proposed ladies' convenience in High-st. —Parks Committee to lay out of R.E. depot, £4,966.

Ampthill.—R.D.C. approved:—12 houses, Kenneth-rd., Springfield, Toddington, E. G. Neavers-n.

Ardsley (W. Yorks).—U.D.C. considering public library.

Ashton-under-Lyne.—Electricity Committee had plans prepared for development of land off Market-st. to include transformer station, store rooms and electricity showrooms. Cost £25,000. J. Rowbottom, B.S.

Aylesbury.—T.C. approved new electricity showrooms, Exchange-st., T.C.; alterations to St. Mary's School, Oxford-rd., managers; extensions (shop and offices), High-st., Aylesbury Co-operative Society, Ltd.; garages, Stoke-rd., W. F. Aris.

Barnard Castle.—Plans approved for alterations and improvements to schools for Rev. B. Darley, St. Mary's R.C. Church.

Barnet.—R.D.C. received M.H. sanction to borrow £20,500 for erection of 50 non-parlour type houses in Hillside-av., Boreham Wood.

Barnsley.—T.C. requested H. Taylor, B.S., to prepare plans for municipal washhouse in New-st.

Bedworth.—U.D.C. to erect slipper baths at Leicester-rd., and decided to buy site for £600.

Biggleswade.—R.D.C. received M.H. sanction to following loans for Stotfold sewerage: £30,700 for 30 years, and £800 for 15 years.

Billesdon.—Plans for 8 new houses in Evington village passed by R.D.C.

Birmingham.—Tame and Rea District Drainage Board considering £30,000 drainage scheme at Colehall works.

Blackpool.—J. B. Singleton, architect, Boroughchams., 7, Cedar-st., prepared plans for hotel in Corporation-st., for Burtonwood Brewery Co., Ltd., of Newton-le-Willows, Lancs.—J. T. C. Derham, architect, Church-st., prepared plans for entire rebuilding of hotel in Bonny-st., for Brunswick Property Co.—Lumb & Walton, architects, 7, Clifton-st., prepared plans for 14 houses in Lockerbie-av., for R. & H. Fletcher.—Mather & Sons & Wilding, Birley-st., architects, prepared plans for hotel and garage, for Duttons Blackburn Brewery Co., Ltd.

Blyth.—Naylor, Sale & Moore, A. & F.R.I.B.A. Market-place, Derby, preparing plans for restoration church. Vicar, Rev. E. C. Kempe.

Bolton.—Board of Management of Infirmary propose reconstruction of laundry premises. Plans by Bradshaw Gass & Hope, FF.R.I.B.A., 91, Silver-well-st. Contracts not yet placed.

Bradford.—E.C. propose extensions and alterations Princeville schools, at £1,865.

Brandon.—Taylor & Wallin, civil engineers, Commercial Union-bldgs., Newcastle-on-Tyne, preparing sewerage scheme for Browney and Littleburn districts for U.D.C., to cost £30,000.

Broadsall.—Parochial Church Council propose to erect church hall in grounds of Old Hall Orchard.

Bristol.—E.C. provisionally accepted tender amounting to £13,309 for a school to accommodate 300 children at Sea Mills.

Burnley.—T.C. to complete Thompson Park, extend paddling pool and erect bandstand, estimated to cost £8,000. A. Race, B.S.

Cardiff.—Proposal been submitted to School Management Committee that temporary school building be provided for Llanishen district at £1,500.

Carlisle.—M.H. held inquiry in connection with sewerage and sewage disposal, and involving a total expenditure of £41,250. Application of Council was sanction to borrow £22,500 for construction of new main outfall sewer; £9,500 for construction of relief sewer for Newtown district; and £9,250 for re-modelling of sewage disposal works.

Carlisle.—J. H. Morton & Sons, Martins Bank-chams., Fowler-st., South Shields, architects for conversion of Doveden Hall into mental colony for Joint Board.

Cheadle.—C.C. is to acquire 10 acres of land off Cheadle-rd. for central school. Plans to be prepared by County Architect, F. Anstead Browne, F.R.I.B.A., Newgate-st., Chester.

* See also our List of Contracts, Competitions, etc.

Cheadle Hulme.—Cheshire C.C. approved primary school for 400 mixed scholars, to cost £13,526, and alterations to Barnlea Brunner Council School, at £4,775. Plans by F. Anstead Browne, F.R.I.B.A., Newgate-st., Chester.

Chester.—E.C. propose to extend City and County Secondary Schools at £37,500.

Coatbridge.—Plans being prepared for school for Lanarkshire Authority. Architect, —. Stewart, Education Offices, Albert-st., Motherwell.

Darwen.—School for senior girls in Avondale-rd., for T.C.

Devon.—E.C. recommend following:—Bideford, new junior Council school for 284 scholars, and playground, £7,993; Bideford, remodelling existing Council school and providing two new classrooms, cloakrooms for boys, staffrooms, playground, etc., £3,203; Exmouth, conversion of boys' and girls' Council school into senior schools (for 960 places), including assembly hall, drying-rooms, staffrooms, and alterations to the existing technical school, £4,154; Exmouth, remodelling infants' school as junior school for 274 places, including cloakrooms, staffrooms, etc., £2,665; Hatherleigh, remodelling existing school for 120 juniors, providing three classrooms, domestic science, handicraft, and science-rooms for 160 seniors, including site works and playgrounds, etc., £7,907; Plymstock, extension and alteration existing senior Council school and addition of three classrooms for 360 places, hall, kitchen, staffrooms, playground, etc., £9,500, and Plymstock, alteration of Goosewell Junior Council School and three additional classrooms for 280 places, staffrooms, playground, etc., £4,546.

Dewsbury.—Funds being raised for alterations and additions to central premises for local Y.M.C.A. at £1,000.

Dorchester.—T.C. approved:—Alterations "Sydney Arms," Bridport-rd., Eldridge, Pope & Co., Ltd.; alterations Great Western Hotel, Eldridge, Pope & Co., Ltd.

Dukinfield.—T.C. propose lay-out land off King-st. and Dewsnap-lane for housing site, about 200 houses are to be erected. Halliday & Agate, A. & L.R.I.B.A., John Dalton-st., Manchester, appointed architects.

Epping.—R.D.C. instructed S., to prepare a lay-out, together with cost, of land and road, of 13½ acres near Lidsey-st., for housing scheme, the lay-out to include a children's playground.

Epping.—R.D.C. resolved, subject to sanction, to purchase land at Roydon to erect 12 houses. Council also agreed to acquire land at Epping Upland for 12 houses.

Fareham.—U.D.C. to proceed with 12 houses in Gordon-rd.

Featherstone.—County Council E.C. propose extensions at Leatham-pk. school to accommodate 200 children, and adapt Snydale Council school buildings into a junior mixed department, together with new conveniences.

Foleshill.—R.D.C. approved: 33 houses, Wallace-rd., Mont House estate, Keresley, W. R. Lane; 26 houses, Wallace-rd., Mont House estate, Keresley, J. Daniels; electricity sub-station, Brandon-rd., Binley, Coventry Corporation; 4 houses, Nuntslane, Exhall, A. E. Gilks.

Glasgow.—Corporation under consideration garage for 200 double-decked buses at Knightswood. T. Somers, City Master of Works.—Plans been prepared for extension to Agricultural College, Blythswood-sq. Architects, Bryden & Robertson, 273, St. Vincent-st.—There will be built in Glasgow for J. Craig (Glasgow), Ltd., 10, Woodlands-rd., new bakery. Architect, J. Carruthers, 209, St. Vincent-st.

Hamilton.—Plans being prepared for school for Lanarkshire Authority —. Stewart, architect, Education Offices, Albert-st., Motherwell.—Playingfields with shelters and pavilions to be laid out. Burgh Surveyor, W. H. Purdie.

Harrogate.—Plans for open-air swimming pool to cost nearly £40,000 being prepared to be presented to Stray and Pleasure Gardens Committee.

Hendon.—R.D.C. accepted provisionally tenders for 136 houses at Pinner at £308 10s. each, and 40 at Little Stanmore at £348 10s. each.

Hinckley.—R.D.C. received sanction to purchase site at Higham for housing.—Further allocation to Earl Shilton of fifty houses of non-parlour with three bedrooms agreed upon.—Plans approved: 6 houses, Thurlaston-rd., Earl Shilton, G. E. & W. Wincott.

Hull.—Wheatley & Houldsworth, architects, preparing plans for sports ground with pavilions, stands, etc., at junction of Boothferry-rd. and North-rd., for Hull City F.C.

Idle.—R. D. Fairbanks & Sons, architects, Bradford, preparing plans for rebuilding factory for Jowetts Motors, Ltd.

Keswick.—U.D.C. approved:—2 pairs semi-detached houses, Crosthwaite, I. & R. Hodgson.

Lancaster.—Barton Townley, Penny-st., to set back property at junction, King-st. and Henry-st., to improved line. Plans by R. W. Jackson, L.R.I.B.A., 43, Church-st.

Leeds.—B. S. & W. Whiteley, Ltd., Pool Paper Mills, Pool-in-Wharfdale, near Leeds, proposing heater house to works, for which plans been approved. Contract not yet placed.

Leeds.—R. Barker & Co., Ltd., to carry out a reconstruction scheme to shop premises at junction of Albion-place and Lands-lane.

Leeds.—Finance Committee considered proposal for new civic offices, to cost £350,000, which are to be erected in Calverley-st.

Loxdon and Winstroet.—R.D.C. making application to M.H. for sanction to loan of £14,400 for purchase of land and erection of houses in parishes of Great Horkesley (6), Great Tey (8), Langenhoe (2), Wormingford (3), Birch (8), Marks Tey (8), Boxted (6), and Dedham (6).

Loyland.—U.D.C. to acquire site, Dunkirk-lane, for houses. 22 houses to be erected in Mead.

Littlehampton.—U.D.C. to purchase, subject to sanction of M.H., land in North Ham-rd., to provide houses for working classes. Application is to be made for £1,670.

Liverpool.—Plans passed by T.C.:—4 houses with garages, Silverton-rd., R. Owens & Son, for W. J. Jones; 6 houses, Dunbabin-rd., R. Owens & Son, for T. Jones; 8 houses with garages, Mossvale-lane, and 14 houses with 10 garages, Croxdall-grove, R. Owens & Son, for Sealy & Lucas; alterations, 9, Randolph-pl., P. J. Bartlett, for Boot's (Lancs), Ltd.; alterations at Convent of Notre Dame, Mount Pleasant and Hope-st., E. Kirby & Sons, for Trustees of Convent; tea rooms, etc., Dove-pk., Church-rd., Woolton, for Corporation; alteration, 183, West Derby-rd., H. E. Davies & Son, for Smart & Co.; alteration for branch bank, 222, County-rd., J. R. Richards, for Lloyds Bank, Ltd.; 4 houses and shops, Lark Hill-pl., R. Owens & Son, for D. Roberts, Son & Co.; alterations, etc., Vauxhall-rd., J. Booth & Sons, for Crosfields Oil & Cake Co., Ltd.; alteration, 24, North John-st., G. de C. Fraser, for C. Sunderland, Ltd.; branch bank and house, 61, Moss-lane, Orrell-pk., Jones & Dalrymple, for District Bank, Ltd.; 4 houses and garage, Mentmore-rd., R. Owens & Son, for W. J. Williams; extension of works, Brompton-rd., W. P. Hornburgh, for Automatic Telephone Manufacturing Co., Ltd.; office building, 15/17, North John-st., A. E. Shennan, for Liverpool Residences, Ltd.

Luton.—T.C. approved: H. V. Hayward, 4 houses, Oakley-rd.; F. Clarke, 4 houses, Wychwood-av.; J. Frost, 8 houses, Selbourne-rd.; W. D. Dyer, 4 houses, Beverley-rd.; F. J. Millard, 3 houses and 1 house with shop, The Meads; N. Hill, 5 houses, Carlton-crescent; Vyse, Sons & Co., Ltd., factory premises, Bute-st.; A. G. F. Machin, 3 shops with offices, Upper George-st.; C. T. Webb, 3 houses, Newark-rd.

Manchester.—Corporation to carry out alterations to civic buildings, Manchester-st., for additional offices accommodation for Public Health Committee.—T.C. to construct ladies' convenience near bowling green, Brookdale-pk.

Marlow.—Council recommended steps be taken to ascertain price of site on which 60 houses could be built and of another piece of land in Cambridge-rd. for 10 small houses.

Marple.—Plans approved:—40 houses, Stockport-rd., by Bramwell & Taylor; 6 houses, Stockport-rd., — Johnson, of Rose Hill House.

Meriden.—R.D.C. passed: 40 houses in New-rd., off Coleshill-rd., Castle Bromwich, Morris, Jacombs & Sons, Ltd.; 6 houses, Duggins-lane, Berkswell, Tommy & Sons; 2 garages, Steehford-rd., Castle Bromwich, W. Haddrell.

Motherwell.—Plans for school for Lanarkshire Authority being prepared. Architect, Mr. Stewart, Education Offices.

Newark.—Notts E.C. obtained sanction to borrow £8,500 for alterations and extensions to Magnus Grammar School. County architect, L. Maggs, F.R.I.B.A., Shire Hall, Nottingham.

Newbury.—U.D.C. approved:—Alterations to Tattersall's stand, Newbury Racecourse.

North Berwick.—Corporation propose esplanade along sea front at £30,000. Lewis & Lewis, C.E., 15, Victoria-st., London, prepared plans.

North Shields.—It is proposed to seek means as soon as possible to build school for St. Cuthbert's parish. Marten & Burnett, L. & A.R.I.B.A., Leeds, to undertake planning of additions and extensive alterations to St. Anne's schools.

Nottingham.—City Council approved following:—Laying out a new recreation ground at Bulwell, £2,500; widening of Aspley-lane, £23,200; widening of Broxtowe-lane, £24,100; widening of Bells-lane, £16,000; new road between Hucknall-rd. and Arnold-rd., £12,500; widening of Wollaton-rd. from Radford-marsh to Council school, £25,000; and widening of Hucknall-rd. bridge over the railway, £17,500.

Omagh.—U.D.C. propose 57 houses on Fair Green site at £16,250.

Penrith.—Plans approved 22 houses, Fell-lane, for Kitchen & Atkinson.

Perth.—There will be added to distillery of John Dewar & Co., Ltd., large edition. Architect, J. Miller, F.R.I.B.A., 15, Blythswood-sq., Glasgow.

Poole.—Managers of Poole Art school and Poole and Branksome evening classes asking for additional accommodation.—B. of E. approved plans for extension of Oakdale Council school, subject to sanction of M.H.

Portsmouth.—T. C. approved: T. Ogden, 4 houses, Main Fareham-rd.; T. Ogden, 4 garages, Main Fareham-rd.; E. Payne, 10 houses and garages off Havant-rd., Cosham; W. E. Ekers, 6 houses, Mayfield-rd.; R. J. Winnicott, 14 houses, Salcombe-av.; W. A. Roberts, 4 houses, Rattenburg-av.; Norman & Son, 8 houses, Kirby-rd.; White & Newton, extension to factory, Dunbar-rd.; Electricity Dept., sub-station, 11, West-st., Southsea; C. Gutteridge, 10 houses, Amberley-rd.; Timothy White (1928), Ltd., extension to offices, Arundel-st.; J. McDermott, 5 houses and garages, Kirby-rd.; G. Park, 6 houses, Locarno-rd.; Parnell Bros., alterations and additions, 190, Albert-rd.; G. Triggs, lock-up stores, Somerset-Beaufort-rds.; Fox & Smith, 2 garages, Romsey-av.; S. J. Todd, 14 houses, off Tangier-rd., J. McDermott, garages, Merry-row; T. L. Norman & Son, garages, 3, Granada-rd.; G. A. Cooper, rebuilding shop, 47, Hyde Park-rd.; Portsea Island Mutual Corporative Society, Ltd., alterations to shop, 122, North End-av.; John Lay & Co., office and garages, Granada-rd.; R. J. Winnicott, 20 houses, Battenburg-av.

Preston.—Plans prepared by Stephen Wilkinson, F.R.I.B.A., 16, Ribbledale-place, for alterations and additions at Hornby and Lancaster Institution.

Rotherham.—R.D.C. recommended application of Rev. Canon A. E. Sorby, of Darfield Rectory, for piece of land on Bramptoa Bierlow housing estate as a site for a mission church.—Council receive M.H. approval proposal of Council to assist J. C. Lister in provision of 200 additional houses at Wickersley.

Ruislip.—Plans approved:—Alteration and adaptation shop for bank premises, High-st., for National Provincial Bank, Ltd.; two pairs of semi-detached houses, Windmill-way, for D. Jackson; two pairs semi-detached houses and one detached house, Bury-st., for West Middlesex Estates, Ltd.; two pairs of semi-detached houses and one detached house, South-drive, for L. Bowers.

Sheffield.—Brown, Bayley's Steel Works, Ltd., acquired Salvation Army Headquarters, Attercliffe, for extending works. New Salvation Army hall to be erected on site in Stainforth-rd., Darnall.

Stretford.—U.D.C. received from M.H. sanction to borrowing £36,886 in connection with completion of construction of Davyhulme-rd. East, and Park-rd. extension.—U.D.C. resolved that application be made to Unemployment Grants Committee for grant in aid of following schemes: Wash-house, Trafford-pk., £5,000; Moss-rd. bridge over canal adjacent to Westinghouse-works, £12,000; Longford-pk., entrance gates, lodge and conveniences, £2,700; and washhouse, Old Trafford, £3,000.—Council approved for new offices of H. Hunt and Sons at works in Elsinore-rd.—Repairs and alterations to be carried out to heating arrangements at Trafford Park library.—Arrangements in hand for tramway shelter at corner of Chester and Trafford-rds.—Plans passed:—13 houses, Ruskin-rd. and Wood-rd. North, for Smith and Allcock; extension, Talbot-rd., for Leyland and Sons; workshop and store, Galgate-st., Ubique Welding Co., Ltd.; loading shelter, off Park-rd., D. Anderson and Son, Ltd.; lavatory, off Park-rd., D. Anderson and Son, Ltd.; loading shelter, Westinghouse-rd., Power Engineering Co., Ltd.; loading way extension, Skerton-rd., W. J. Brookes and Sons, Ltd.

Sunderland.—Authority given to obtain compulsory powers for purchase of 178 acres of land adjoining Borough Mental Hospital for hospital extension.—Council adopted Highways Committee's plan for constructing 80-foot road from Seaburn to borough boundary, along the sea front, at £26,000.—Tenders accepted for 52 three-roomed and 46 four-roomed houses in Grangetown and Ryhope-rd. districts, at £38,214.—18 three-story two and three-roomed flats will be built at Harrison-bldgs.

Swansea.—C.B. considering bridge across River Neath.—Director of Education received from B. of E. approval of £490 for purchase of site adjoining Llansamlet Senior School, and C.B. resolved that application be made to M.H. for sanction to borrowing.—Borough Estate Agent reported that Sir Courtenay Mansel was prepared to sell land at Manselton as site for a sub-station, and Council approved.—Borough Estate Agent also reported that Grove Estate was prepared to lease land at Mayals as a site for a sub-station, and this Council approved. Borough Architect submitted proposed lay-out for the erection of a further 94 houses (13th group) on Townhill site, and C.B. resolved that proposed lay-out be approved and adopted, and application made to M.H. for formal sanction to erection.—Application be made to M.H. for sanction to borrowing £37,080 12s. 9d. for erection by direct labour of 11th group of 100 houses.—Director of Education received B. of E. approval to plans for staff rooms and additional classrooms to Glanmor secondary schools.—Plans approved: alteration, 7 and 8, Castle-st., M. Burton and Co.; pavilion and lavatory accommodation, Ravenhill-pk., Parks Committee; alterations and lavatory accommodation, Albert Hall, South Wales Cinemas, Ltd.; alterations and additions, Picture House, High-st., for South Wales Cinemas, Ltd.; 6 houses, Lon Coed Bran, Townhill, Rogers and Davies; bandstand, Ravenhill-pk., Parks Department; alterations and garage, 15, Walter-rd., J. T. Davies, Ltd.; alterations and additions, The Grove, Uplands, Committee Beechwood Club; boiler house and alterations to house, West End Brewery, Western-st., Wm. Hancock and Co., Ltd.; alterations, 290, Carmarthen-rd., Lloyds Bank., Ltd.; 6 houses, Lon Coed Bran, Townhill, Rogers and Davies.

Tottington.—District Co-operative Society, Ltd., 33, Chapel-st., propose branch premises at Greenmount. Plans by Architects' Department, Co-operative Wholesale Society, Ltd., 1, Balloon-st., Manchester.

Wakefield.—Working men's club and institute on Horbury-rd., Lupset. Drake & Waters, joiners, Thornhill-st., acting as architects for scheme.

Walsall.—T.C. considering recommendation of Property Committee that plans approved for extension to Council House, with frontages to Darwall-st. and Tower-st., at £18,000.

West Hartlepool. T.C. approved: A. Walker, altering shops and warehouses into 9 lock-up shops, Hart-rd.; Harland & Parker, 22 houses, Spring Gardens-rd. (east side) and 5 houses, Stirling-st.; T. Whitear, 5 houses, Clifton-av. and Eltringham-rd.; Hartlepools Co-operative Society, additional staircases from first and second floors at Co-operative Hall, Whitby, Lamb and Temperance-sts.

Whitwood.—U.D.C propose shops at Three Lane ends housing estate. Architects, R. A. Easedale & Son, Castleford.

An Omission.

We regret that the name of the Nautilus Fire Co., Ltd., was omitted from our list of exhibitors at Olympia, published last week. The firm is exhibiting on Stand No. 268, Row O.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 3 6
Second Hard Stocks	3 18 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at			
King's Cross	2 12 3	Best Blue Pressed Staffs	9 5 0
Do., grooved for Plaster	2 14 3	Do. Bullnose	9 15 0
Do., Bullnose	3 7 3	Blue Wire Cuts	7 5 0

Best Stourbridge Fire Brick :—

2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—			
Best White Ivory and Salt Glazed Stretchers	21 0 0	D'ble Str'tch'rs	29 10 0
		D'ble Headers	26 10 0
		One Side and two Ends	30 10 0
Headers	20 10 0	Two Sides and one End	31 10 0
Quoins, Bullnose and 4½ in.		Splays, and Squints	28 0 0
Flats	27 10 0		

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS
Delivered London

	s. d.		s. d.
2 in. per yd. super.	1 11	3 in per yd. super	2 9
2½ in. " "	2 4	4 in. " "	3 6

	s. d.	
Thames Ballast	9 9	per yd
Pit Sand	12 0	"
Thames Sand	12 0	"
Best Washed Sand	12 6	"
½ in. Shingle for Ferro-Concrete	11 6	"
¼ in.	12 0	"
½ in. Broken Brick	11 6	"
Pan Breeze	8 0	"

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement. British. Standard Specification. Test £2 6 0 to £2 8 0 29s. alongside at Vauxhall in 50-ton lots.

	£ s. d.
Ferrocrete per ton extra on above	0 7 6
Vitrocrete " "	0 7 6
Super Cement (Waterproof)	3 16 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Strapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair	per cwt. 2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.
Stourbridge Fireclay in s'cks 27s. 0d. per ton at rly. dp.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube — s. d. 2 10

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. per ft. cube 3 1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE.—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 4½
Do. do. delivered on road wagons at above stations, per ft. cube 4 5½
White basebed, 3d per ft. cube extra.
NOTE.—1d. per ft. cube extra for every foot over 20 ft *average*, and ¼d. beyond 30 ft.

HOPTON-WOOD STONE.—
F.O.R. Quarries, Wirksworth, Derbyshire. s. d.
Random blocks from 10 ft. and over F. ft. cb. 14 0
Sawn two sides " 22 6
Sawn three or four sides " 27 6

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London.
6 in. sawn two sides landings to sizes (under 20 ft. super) Per ft. super 5 6
6 in. rubbed two sides, ditto " 6 0
3 in. sawn two sides slabs (random sizes) " 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) " 1 6½
1½ in. to 2 in. ditto, ditto " 1 3½

HARD YORK—
Delivered at any Goods Station, London.
Scappled random blocks Per ft. cube 6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super 5 1½
6 in. rubbed two sides, ditto " 6 1½
6 in. sawn two sides slabs (random sizes) " 2 1½
3 in. ditto ditto " 2 10
2½ in. self-faced random flags Per yd. super 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 3s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 6d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£27 10	3 × 6	£21 0
4 × 9	26 0	3 × 11	25 0
4 × 8	25 0	2 × 11	26 0
4 × 7	23 0	3 × 9	24 0
3 × 8	22 0	2½ × 9	24 0
3 × 7	22 0	3 × 4½	21 0
2½ × 7	21 0	3 × 4	21 0

PLANED BOARDS.

1 × 11	£30 0	1 × 9	£28 0

PLAIN EDGE FLOORING

Inches.	per sq.	Inches.	per sq.
⅜	18/-	1¼	30/-
½	21/-	1½	34/-
1	24/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.	Inches.	per sq.
1	24/-	⅜	16/6
1¼	30/-	½	19/-
1½	34/-	1	24/-

MATCHING (BEST).

	s. d.		s. d.
Ins. BATTENS.		SAWN LATHS.	
⅜ × 3 per 100 ft.	2 6	Per bundle	2 6

1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 16 0	to 0 18 0
Dry American and/or Japanese Figured Oak, ft. cube	0 14 0	to 0 15 0
Dry American and/or Japanese Plain Oak, ft. cube	0 10 0	to 0 13 0
Dry sq. edged Honduras Mahogany, ft. cube	0 15 0	to 0 18 0
Dry Log cut Honduras Mahogany, ft. cube	0 16 0	to 1 1 0
Dry Cuba Mahogany, ft. cube	1 1 0	to 1 10 0
Dry Teak, ft. cube	0 13 0	to 0 15 0
Dry American Whitewood, ft. cube	0 10 0	to 0 14 0
Best Scotch Glue, per cwt.	4 10 0	to —
Liquid Glue, per cwt.	4 7 0	to 5 10 0

SLATES

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	31 0 0	18 by 10	17 5 0
22 by 12	27 19 6	18 by 9	15 10 0
22 by 11	25 5 0	16 by 10	14 14 6
20 by 12	24 7 6	16 by 8	11 5 0
20 by 10	20 17 6		

TILES.

Delivered at London rate stations in full truckloads of not less than 6 tons. Per 1,000. f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	4 5 2 6
ditto hand-made ditto	5 7 6
Ornamental ditto	5 12 6
Hip and valley tiles (per dozen) { Hand-made	0 9 6
{ Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£12 10 0
Plain Compound Girders	14 10 0
Stanchions	16 10 0
" In Roof Work	19 10 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
½ in.	11 0 0	1 in. to 2¾ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less as above gross discounts, carriage forward, if sent from London Stocks.)

	Tubes. Wrought Mild Steel.	Fittings. Genuine and Staffs. Iron.	Fittings. ½ in. and under.	Fittings. Over ½ in.	Flanges. ½ in. and under.	Flanges. Over ½ in.
	%	%	%	%	%	%
Gas	63	52½	45	47½	55	57½
Water	61½	48½	40	42½	50	52½
Steam	57½	43	35	37½	45	47½
Galv. gas	52½	40	35	37½	45	47½
Galv. water	47½	35	30	32½	40	42½
Galv. steam	42½	30	25	27½	35	37½

*C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	10d.	7½d.	2½d.
2½ in.	10½d.	8½d.	2½d.
4 in.	10½d.	9½d.	2½d.
4½ in.	11½d.	10½d.	3½d.
5 in.	1/1½	11½d.	3½d.

*O.G. GUTTERS.

3 in.	1/0	10½d.	2½d.
3½ in.	1/0½	10½d.	2½d.
4 in.	1/1½	10½d.	2½d.
4½ in.	1/2½	1/½	2½d.
5 in.	1/5	1/2½	3½d.

*RAIN-WATER PIPES, &c.

Per yd. in 6 ft.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/2½	9½d.	1/2
2½ in. "	1/3	10½d.	1/4½
3 in. "	1/6½	1/1½	1/6½
3½ in. "	1/11	1/4½	1/11½
4 in. "	2/2½	1/7½	2/4½

*The above R.W. Goods prices are subject to an advance of 5% from October 29th, 1929.

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6 fts. plain	2 5	1 9	2 1
2½ in. "	2 9½	1 10½	2 7
3 in. "	3 0	2 1	3 1
3½ in. "	3 3	2 7	3 7
4 in.	3 8	2 11	4 1½

L.C.C. COATED BRASS PIPES—London Prices ex Works

	Bends, stock angles. s. d.	Branches, Pipe, angles, stock angles. s. d.
3 in. per yd. in 9ft. lengths	3 6	4 6
4 in. "	4 6	5 6
5 in. " "	6 3	7 6
6 in. " "	7 3	10 0

Gaskos for jointing, 41/- per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common bars	11 0 0	to	12 0 0
Staffordshire Crown Bars—Good merchant quality	11 10 0	to	12 10 0
Staffordshire Marked Bars	14 0 0	...	15 0 0
Mild Steel Bars	10 0 0	...	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	9 10 0	...	10 10 0
Hoop iron, basis price	11 10 0	...	12 10 0
" Galvanised	27 0 0	...	28 0 0
Soft Steel Sheets, Black—Ordinary sizes, to 20 g.	11 10 0	...	12 0 0
" " " 24 g.	13 0 0	...	14 0 0
" " " 26 g.	15 0 0	...	16 0 0
Sheets Flat Best Soft Steel, C.R and C.A. quality—Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 0 0	...	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 0 0	...	17 0 0
Ordinary sizes, 6 ft. by to 3 ft. to 26 g.	18 0 0	...	20 0 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	15 10 0	...	16 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	16 0 0	...	17 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	19 0 0	...	20 0 0
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	21 0 0	...	22 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	23 0 0	...	24 0 0
Best Soft Steel Sheets, 26 g.	24 10 0	...	25 10 0
Cut Nail, 3 in. to 6 in.	16 0 0	...	17 0 0

Under 2 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete house work, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)

	£ s. d.
LEAD—Sheet. English, 4 lb. and up	27 0 0
Pipe in coils	27 10 0
Soil pipe	30 10 0
Compo pipe	31 10 0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt, 2s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt extra. Cut to sizes, 5s. cwt. extra.

Old lead, ex London area, at Mills per ton	£16 10 0

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	1 3
Strong sheet "	1 0
Thin "	1 1
Copper nails "	1 11
Copper wire "	2 0

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
6 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
6 lbs. S. traps	35/-	45/-	66/-	126/- "

TIN.—English Ingots, 1/11 per lb. SOLDER.—Plumber's 9d., Tinmen's 11d, Blowpipe 1/- per lb.

PAINTS, &c.

Raw Linseed Oil, in pipes	per gallon	0 3 2	
" " " in barrels	"	0 3 4	
" " " in drums	"	0 3 6	
Boiled " " in barrels	"	0 3 6	
" " in drums	"	0 3 8	
Turpentine in barrels	"	0 3 8	
" in drums (10 gals)	"	0 3 10	
Genuine Ground English White Lead, per ton		51 0 0	

(In not less than 5-cwt. casks.)
Extra for 1-cwt. kegs over 5-cwt. casks is 5/0 cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(cont.)

PAINTS, &c.—(cont.)

	£ s. d.
GENUINE WHITE LEAD PAINT. "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganwyns," "Polseco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots per ton delivered...	70 10 0
Red Lead, Dry (packages extra) ... per ton	29 0 0
Best Linseed Oil Putty .....per cwt.	0 15 6
Filled ..... "	0 16 6
Size. XD quality ..... fkn.	0 3 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per ft.		Per ft.
15 oz. fourths ... 2½d.	32 oz. fourths	6½d.
15 " thirds ... 3½d.	32 " thirds.....	9d.
21 " fourths ... 3½d.	Obscured Sheet, 15 oz. ...	3½d.
21 " thirds..... 4½d.	" 21 oz. ...	4½d.
26 " fourths ... 4½d.	Fluted, 15 oz. 7d., 21 oz.	9½d.
26 " thirds..... 6½d.	Em'led, 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
¼ Rolled plate	4½d.
⅜ Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White...	5½d.
Ditto, tinted	8½d.
Rolled Sheet	4½d.
White Rolled Cathedral	6d.
Tinted do.	7d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per foot s. d.
Clear sheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate—not exceeding 1 foot	1 6
Do. not exceeding 2 feet	2 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 2 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide ...	2 6

ULTRA VIOLET RAY GLASS. RAYLITE.	Per foot s. d.
Up to 2 sq. ft.	1 0
Do. 4 sq. ft.	1 3
Do. 8 sq. ft.	1 2

FOREIGN.

HORTITEX (HORTICULTURAL).	
Up to 1 sq. ft.	0 7
Do. 2 sq. ft.	0 8
Do. 3 sq. ft.	0 9
(Not exceeding 24 in. by 18 in.)	
Do. 4 sq. ft.	0 10
Do. 8 sq. ft.	0 11

VARNISHES, &c.

		Per Gallon. £ s. d.
Oak Varnish	Outside	0 14 0
Fine ditto	ditto	0 16 0
Fine Copal.....	ditto	0 18 0
Pale Copal.....	ditto	1 0 0
Pale Opal Carriage	ditto	1 4 0
Best ditto	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting.....	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 12 0
Best ditto	ditto	1 2 6
Best Japan Gold Size.....		0 12 6
Best Black Japan		0 10 6
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 0
Berlin Black		0 14 0
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebene		0 9 0
Cutrose Black Enamel.....		0 7 0

Builders' Cricket Match.

The final for the L.M.B.A. President's Cup (cricket) will be played on the Portland Sports Club ground, at Snaresbrook, tomorrow (Saturday, September 20), commencing at 2 o'clock. The teams are as follows :—

HIGG'S SPORTS CLUB.—B. C. Aldous, C. Allistone, W. N. Burgess, A. Clarke, J. H. Clifton (capt.), H. S. Doughty, R. Hurst, A. H. S. Lane, W. Leverick, H. E. Olliver, and A. E. Payne. Reserves: G. C. Classen and H. Terry.

F. G. MINTER ATHLETIC.—A. Pring, E. Pratley, S. Mulford, W. Hill, A. Atkinson, E. Wilson, C. Smith, J. Thurlow, E. Fitch, C. J. Goldsmith, and D. Coker.

Football Result, September 13 :—Ekilrae 1, v. Portland 1.

THE SCOTTISH BUILDER

Aberdeen. — HOUSING. — A programme of house building for the next three years is being considered by the Housing Committee of Aberdeen Town Council. The scheme makes a provision for 2,400 houses.

Alloa.—BRIDGE.—The Alloa Town Council have received a copy of the engineer's report on the proposed road traffic bridge over the Forth, either at Alloa or Kincardine. The engineers appointed by the Ministry of Transport, Messrs. Mott, Hay & Anderson, and Sir Alexander Gibb & Partners, dealt at considerable length with the suitability of the sites at Alloa and Kincardine, and the financial, engineering and traffic considerations in each case. The estimated cost of the proposed bridge, with a 20 ft. carriage-way and a footpath 6 ft. wide at Alloa, would be £333,000, and at Kincardine £311,000.

Dundee.—BUILDINGS.—Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the City Engineer :—Broughty Ferry-road—house for Messrs. A. Thompson & Co. (Mr. Joseph Johnston, architect, 32, Bank-street); Byron-street—school for Dundee T.C. (Messrs. Allan & Friskin, architects, 26, Castle-street); Dalkeith-road — garage for Mr. W. Black (Mr. W. M. Patrick, architect, 26, Yeaman-shore); Dundas-street—stable and shed for Mr. James Robertson (Mr. T. L. Gray, architect, 2, India Buildings); Monifieth-road—alterations and additions for the Armitstead Trust (Messrs. Thoms & Wilkie, architects, 21, South Tay-street); Robson-street—garage for Mr. W. Black (Mr. W. M. Patrick, architect, 26, Yeaman-shore); Ward-road — garage for Mr. D. J. Macdonald (Messrs. Thoms & Wilkie, architects, 21, South Tay-street).

Edinburgh.—HOUSES.—The T.C. are inviting tenders for 24 houses at Gilmerton. Mr. E. J. MacRae, A.R.I.B.A., City Architect, prepared the plans.

Glasgow.—ALTERATIONS.—The T.C. are inviting tenders for alterations to Pollokshaws Burgh Halls.

Glasgow.—LIBRARY.—The Gorbals library is to be erected and the T.C. are inviting tenders for the work.

Jedburgh.—BUILDING.—For erection of a residence and outbuildings at the Jedburgh T.R.S., H.M.O.W. has placed the contract with Messrs. Lander & Shaw, New Town, Milngavie.

Lanarkshire.—IMPROVEMENT.—At a cost of £56,734, the Ministry of Transport have approved of the recommendation of Lanark C.C. to reconstruct and surface Kirkintilloch-road, Bishopbriggs, extends from Bishopbriggs to Dryfield, near Kirkintilloch, a distance of fully three miles.

Paisley.—WIDENING.—Letters have been submitted to the T.C. approving of the road-widening schemes in Millarston, in Rowan-street and Loch-road, in Gauze-street, and in Abbey-close and Bridge-street.

BUILDING TRADE WAGES IN SCOTLAND*

The following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'‡ Bricklayers'† Plasterers'†
Aberdeen	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Airdrie	1/7	1/7	1/7	1/8	1/7	1/7	1/8	‡1/2½ †1/2½
Alexandria	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Arbroath	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/5½	1/1
Ayrshire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bathgate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2 to 1/3
Berwickshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/7	1/7	1/7	1/8	1/7	1/7	1/8	†1/2½
Broughty Ferry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Clackmannanshire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Coatbridge	1/7	1/7	1/7	1/8	1/7	1/7	1/8	‡1/2½ †1/2½
Dumbartonshire	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Dumfries	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/6½	1/2
Dumfriesshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dundee	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dunfermline	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Duncon	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
East Lothian	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Edinburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Falkirk	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Forfarshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/6½	1/7	1/6½	1/7	1/6½	1/6½	1/7	1/2
Glasgow	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Greenock	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Hamilton	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Inverurie	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Kilmarnock	1/6½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Kincardineshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kinross-shire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Kirkcaldy	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Kirkwall	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanarkshire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leith	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Mid Lothian	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Motherwell	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Peebleshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Perth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Perthshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Peterhead	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Renfrewshire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Rothesay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Roxburghshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Andrews	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Selkirkshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stirling	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Stirlingshire (Eastern District)	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stornoway	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Lothian	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wishaw	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 496.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	1½

POINTING.

Neat flat struck or weathered joint	"	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—

Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super.	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	3
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	20	0

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors and partitions	" "	6	0
Do. trusses	" "	8	6

		½"	1"	1½"	2"
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-
Flat centering for concrete floor, including struts or hangers	"				50 0
Do. to beams	per ft. sup.				0 11
Centre for arches	"				1 6
Gutter boards and bearers	"				1 0

FLOORING.

		½"	1"	1½"	1½"
Deal edges shot	per sq.	—	44/6	53/-	60/6
Do. tongued and grooved	"	—	49/-	57/6	65/-
Do. matchings	"	45/-	51/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights : average size	"	3	9

DOORS.

		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		1"	1¼"	1½"
Deal wrot moulded and rebated	per foot cube			14 6
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

		1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets		2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed		1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail : average, 3 in. × 3 in.	" "	6	0
Add if ramped	" "	12	0
Add if wreathed	" "	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roofwork	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	44	0
Do. Do. in flats	"	43	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	3
Copper nailing	" "	0	3

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	"	1/8	2/2	2/7	3/10	—	—
Do. soil	"	—	—	—	—	3	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"	—	—	—	14/7	19/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

			s.	d.
Render, float and set in lime and hair	per yard sup.		2	6
Do. Do. Sirapite	" "		2	9
Do. Do. Keen's	" "		4	0
Add saw lathing	" "		1	7
Add metal lathing	" "		2	6
(Not including hangers or runners, etc. for suspended ceilings.)				
Portland cement screed	" "		2	2
Do. plain face	" "		3	3
Mouldings in plaster	per 1 girth		0	1½
One-and-a-half granolithic pavings	per yard sup.		5	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	" "	1	0
Obscured sheet	" "	1	1
⅛-in. rolled plate	" "	0	9
¼-in. rough rolled or cast plate	" "	0	10½
¼-in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	8
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10%, on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW BUILDINGS IN LONDON

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Tuesday evening.*

Bowes Park.—EXCHANGE.—Messrs. Galbraith Bros., Ltd., 71, Waterloo-street, Camberwell, S.E.5, have secured the contract for the erection of Bowes Park telephone exchange, for H.M.O.W.

Kensington.—RECONSTRUCTION.—For the reconstruction of the High-street branch post office, H.M.O.W. have placed the contract with Messrs. Higgs & Hill, Ltd., Crown Works, South Lambeth-road, S.W.8.

Park-lane.—SHOPS.—With reference to the paragraph which appeared under this heading in our last issue, we stated that Messrs. John Knox and Dyke, Ltd., builders, 4, Cavendish-place, W.1, had secured the building contract. This, we understand, is incorrect, as they have only been given the demolition contract. Mr. G. Val Myer, F.R.I.B.A., of Abbey House, Victoria-street, S.W.1, is the architect.

Twickenham.—BUILDINGS.—The island site at the junction of King-street and Cross Deep has been sold to Messrs. Tamplins, the motor dealers. On it Messrs. Tamplins propose to construct motor showrooms.

A SPORTS MEETING

THE third annual sports meeting of Messrs. Peter Lind and Co., Ltd., of 7, Brunswick-house, Central-buildings, Westminster, was held on Saturday, September 13, at Charlton Park, S.E. There was a large number present in spite of the very bad weather conditions, and all the races were keenly contested. Amongst those present were Mr. and Mrs. H. P. T. Lind, and Mr. K. L. Mygind, directors of the firm; Messrs. H. Olsen, J. Jacobsen, W. Hamilton and W. S. Symonds. The prizes have been presented by many well-known firms, including the principal cup, which was given by the directors of *The Builder*, Ltd. This trophy was presented to Mr. A. V. Cardew, who obtained the highest number of points during the meeting, and it is to be retained by him for one year and then put up again. It becomes the property of the one who wins it three years running. A bouquet was presented to Mrs. Lind, who afterwards distributed the prizes. Votes of thanks were proposed by Mr. Mygind to all those who were present and had helped to make the gathering a success, and by Mr. Hamilton, who thanked, on behalf of Messrs. Peter Lind, all those who had so kindly given the prizes. Mr. Hamilton was in charge of the arrangements.

Southfleet Church.

After a silence of at least 100 years, the old bells of Southfleet Church are pealing again, having been re-dedicated on September 14, in the presence of a large number of local villagers. These bells have not been pealed within living memory because three of them were badly cracked, but three or four years ago the Rector, the Rev. J. H. Jones, opened a restoration fund for the repair of the church, and part of it was earmarked for the work to the bells, which was, we are told, carried out by the "Barimar" process. No recasting work was done, and the original identity remains. Southfleet is an old-world village in Kent, a few miles south of Gravesend, and is close to the Roman Watling-street, which ran from London to Dover. The church was built about 600 years ago, and stands on the site of a much older church, which, in turn, is believed to have been built on the foundations of a pagan temple. Some Roman tiles, which are believed to have formed part of the ancient temple, were used in the construction of the floor of the present church, and can be seen in the chancel.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office.*

Abbotsinch.—Levelling, drainage, etc., for M.H. Air Ministry :—

*M. M Hunt, 142, Buchanan-street, Glasgow.

Armthorpe.—New hall and classrooms for Parish Church. Reverend A. E. Duckett, rector :—

Pearson & Blackwell (Doncaster), Ltd., Doncaster £2,200

Axbridge.—Covered concrete reservoirs, small pumping station, excluding machinery, foundations for erection of 16,000 gallon elevated steel tank, laying 34,996 lin. yds. of 5 in., 4 in. and 2 in. cast-iron mains, together with all works auxiliary thereto, for the R.D.C. Messrs. Parker Pearson & Ross Hooper, engineers, Dallas-chambers, Chippenham :—

*J. G. Rutter & Sons, Washington Station, Co. Durham £16,290

Beaconsfield.—124 houses, for the U.D.C. :—

*Jefferson, High Wycombe £50,000
(Subject to approval of M.H.)

Biggleswade.—Wiring houses as follows, for the R.D.C. :—

	Per house.
Arlesey, 46 houses—	
F. Knight, Biggleswade	£4 16 0
First Garden City, Ltd.	4 4 0
*W. F. Hunt, Shefford	3 3 6
Clifton, 10 houses—	
F. Knight, Biggleswade	4 18 0
First Garden City, Ltd.	4 4 0
C. L. Gough, Sandy	3 17 6
*W. F. Hunt, Shefford	3 5 0

Bournemouth.—27 houses in Lackham-road, and 2 houses in Castle-lane, for the T.C. :—

‡Sidney Hawkins £14,312
(In lieu of tender withdrawn.)

Bristol.—For (a) 90 houses, (b) 91 houses, and (c) 82 houses at Bedminster, for the T.C. :—

(a) *Simms, Sons & Cooke, Ltd. £29,506
(b) *F. J. Bursill, Warwick 29,796
(c) *F. J. Bursill, Warwick 26,844

Calne.—60 yds. of 18 in. diameter stoneware pipe sewer, 135 yds. of 15 in., and about 24 yds. of 15 in., under the River Marden, including the necessary manholes and storm-overflow chamber, at Station Meadows, for the T.C. Mr. T. V. Oliver, Borough Engineer and Surveyor. Quantities by the Borough Engineer and Surveyor :—

W. E. Chivers & Sons, Ltd., Devizes	£956 0 0
Fothergill Bros., Ltd., Exeter ...	845 0 0
Ernest Ireland, Bath	765 0 0
*Blackford & Son, Calne	755 17 0
Borough Surveyor's estimate ...	825 0 0

Carlisle.—Widening of Eden Bridge and approaches, for the T.C. Mr. P. Dalton, A.R.I.B.A., City Engineer and Surveyor, 18, Fisher-street :—

*M. Muir & Co., Ltd., Kilmarnock ... £52,854

Chailey.—10 houses in the parish of Newick and 8 houses in the parish of Plumpton, for the R.D.C. Mr. E. H. Fuller, architect, 19, High-street, Lewes :—

10 houses at Newick—	
Mavat, Ltd., London	£5,438
C. L. White, Scaynes Hill	5,298
Durrant Bros., Uckfield	4,710
Bentley & Ward, Ltd., Crawley	4,704
*C. Pannett & Son, Ltd., Lewes	4,666
8 houses at Plumpton—	
Mavat, Ltd., Sloane St., S.W.	4,551
C. L. White, Scaynes Hill	4,456
Wells & Co., Plumpton	4,315
Bartley & Ward, Crawley	3,969
C. Pannett & Sons, Ltd., Lewes	3,955
*Durrant Bros., Uckfield	3,905

Cleobury.—Six parlour type houses at Cleobury Mortimer, for the R.D.C :—

*J. H. Smith, Kidderminster.

Clonmel.—New detached acute division for 100 male patients, and alterations and additions to the workhouse buildings for 170 non-acute patients, for the District Mental Hospital Committee. Mr. D. S. Doyle, A.M.I.C.E.(I.), architect, 45, Parnell-street, Clonmel, Co. Tipperary. Quantities by Messrs. A. Edward Smith, F.S.I., and F. D. Shortall, P.A.S.I., of Dublin :—

New Acute Division—	
M. Doyle, Limerick	£24,392
M. Condon, Thurles	23,304
J. Kearns, Cork	23,169
Walsh Bros., Clonmel	22,834
Roche, Morrissey & Kennedy, Clonmel	20,582
J. Hearne & Son, Waterford	20,266
McNally & Co., Dublin	19,950
P. Flynn, Cork	19,473
*P. Costin, Waterford	18,032
Reconstruction of Workhouse into a Non-acute Division—	
J. Kearns, Cork	£23,747
M. Condon, Thurles	23,310
M. Doyle, Limerick	22,977
P. O'Flynn, Cork	22,080
Roche, Morrissey & Kennedy, Clonmel	20,788
John Hearne & Son, Waterford	21,371
*McNally & Co., Dublin	19,966

Colwyn Bay.—Depot at "Monaville," Conway-road, for the U.D.C. Mr. W. J. Dunning, engineer and surveyor :—

S. Allen Hughes, Colwyn Bay ...	£3,200 0 0
T. G. Huxley & Co., Chester ...	3,087 0 0
Ashworth Bros., Rhos-on-Sea	2,975 15 0
Ed. Williams & Son, Dyserth ...	2,897 10 0
F. J. Tucker & Son, Colwyn Bay	2,848 2 7
Ld. E. Evans, Old Colwyn	2,729 0 0
*E. Cubben, Colwyn Bay	2,575 12 0

Congleton.—Transformer sub-station in Bromley-street, for the T.C. Mr. J. Hood, Borough Surveyor :—

*T. & E. Cook, Congleton.

Denton.—20 semi-detached houses in Ash-road and Wainwright-avenue :—

Builders—*J. Riley & Sons, Ltd., Manchester.
Plumbers—*W. H. Pennington, Ardwick Green.

Dewsbury.—Reglazing portion of roof of covered market, for the T.C. Mr. T. Blakeway, Borough Architect :—

*Standard Patent Glazing Co., Dewsbury £760

Eaton Socon (Beds).—Rebuilding the chancel and nave of the church, for the Parochial Church Council. Professor A. E. Richardson, F.R.I.B.A., architect, 41, Russell-square, W.C.1. :—

S. Foster, Ltd., Kempston, Bradford £15,151

Featherstone.—Lock-up shops for the U.D.C. :—

*L. Rodgers.

Gosforth.—Sixteen three-roomed houses in Coxlodge-road, for the U.D.C. :—

*J. S. Hetherington, Newcastle-on-Tyne.

Haverfordwest.—For (a) external and part internal decoration and (b) certain internal and external plastering, for the Pembrokeshire C.C. Mr A. H. Thomas, County Architect, Willesden House, Haverfordwest :—

*Price & Davies, Tower Hill, Haverfordwest.

Hull.—Superintendent's house and foreman's lodge at the cemetery, for the T.C. :—
*T. Bilton, Hull £2,587

Kidderminster.—Extension of the nurses' home at the General Hospital. Mr. H. E. Rolley, F.R.I.B.A., architect, Kingsley Hall :—
*R. Thompson, Kidderminster.

Kingswood.—24 houses at Tennis-court road, for the U.D.C. Mr. G. Fletcher, surveyor. Plans and specification by the surveyor :—

G. Gunning & Son, Warmley	£8,664
Hembrough & Son, Warmley	8,662
Bennett & Morgan, Bristol	8,630
Willmott Bros., Kingswood	8,508
H. Ayres, Kingswood	8,022
*H. Williams, Tower-road, Warmley	7,932

Kirriemuir.—Three blocks of four houses each, at Glamis-road, Kirriemuir, for the T.C. Mr. J. S. Bruce, Burgh Surveyor and Architect. Quantities by Burgh Surveyor :—

Builders—
*C. & D. Laird, Forfar £954 15 6
Joiner—
*Hy. Dall, Forfar 1,124 0 0
Slater—
*And. Shepherd, Forfar 303 9 0
Plumber—
*James Clark, Kirriemuir 451 5 10
Plasterer—
*W. W. Milne, Kirriemuir 268 9 6

Litherland.—Boundary walls, gates, etc., at Schoolline, for the U.D.C. Mr. Geo. Pomford, engineer and surveyor :—
*Geo. Wright, Bridge-road, Litherland.

London.—Painting the exterior of flats at Wyfold road, for the Fulham B.C. :—
*W. J. Marston & Son, Wandsworth Bridge-road £186 15 9

London.—For substituting leaded lights for the plain glass windows at present in the Council Chamber and Committee Room at the Town Hall, for the Shoreditch B.C. Borough Surveyor :—
*Eston, Parr and Gibson.

¶**London.**—Tenders accepted by H.M.O.W. for the week ending September 13 :—
Rowe Park Telephone Exchange—erection—Galbraith Bros., Ltd., 71, Waterloo-street, Camberwell, S.E.5.
Kensington High-street Branch Post Office—reconstruction and fittings—Higgs & Hill, Ltd., Crown Works, South Lambeth-road, S.W.8.
St. James's Palace—external painting—W. Turner Lord & Co., 20, Mount-street, W.1.
Acton, Ministry of Pensions—internal decorations—F. W. Holleyman, 1, Church-road, Barnes, S.W.13.
Jedburgh T.R.S.—erection of residence and outbuildings—Lander & Shaw, New Town, Milnravie.
Abbey Hill Telephone Exchange—erection—Thos. Millar & Co., Ltd., Hermitage Park, Leith.
National Physical Laboratory—internal and external painting—W. Chappell & Co., Ltd., 243, Elgin-avenue, Maida Vale, W.9.
Denton A.T.E.—erection—Ogden Brothers, 849, Middleton-road, Oldham.
Bournemouth Branch Post Office—enlargement of public office, etc.—E. J. Bishop, Croft-road, Parkstone.
Newbury Post Office and Telephone Exchange—heating.—H. C. Goodman, Caversham Bridge Foundry, Reading.

London.—Open-air swimming bath at Kennington Park, S.E., for the L.C.C. Chief Officer, Parks Department Room 517, Grand-buildings, Trafalgar-square, W.C. :—

H. Somerford & Son, Ltd.	£10,333
E. B. Holmes & Co., Ltd.	10,324
W. J. Dixon & Sons	10,265
J. Garrett & Son, Ltd.	10,031
J. Crewdson, Horley	9,986
Triggs and Co., Ltd.	9,683
D. G. Somerville & Co., Ltd.	9,595
Mears Brothers	9,455
W. O. Everitta, Ltd.	9,150
Industrial Construction, Ltd.	8,258
Corolite Construction, Ltd., Shaftesbury-avenue, W.C.2.	7,148

(All of London.)

London.—The following works contracts have been placed by the War Office during the week ended 11th September, 1930 :—
North Aldershot—artificers' works—J. B. Edwards & Co. (Whyteleafe), Ltd., London, W.
Aldershot, Stanhope Lines—sanitary annexes—Rigg & Remington, Ltd., London.
Portsmouth—alterations to regimental institute—E. & A. Sprigings, Portsmouth.

London.—Alterations to the electric lighting installation in the basement of the Town Hall, for the Finsbury B.C. :—
*Marryatt & Place, 40, Hatton-garden, E.C.1 ..... £137 10 0

Lutterworth.—For (*a*) 24 houses in Crescent-road, (*b*) house for Lutterworth waterworks attendant; and (*c*) 6 houses at Gilmorton, for the R.D.C. Mr. A. J. Ross, surveyor :—

† (a) P. Rourke, Lutterworth	£7,460
† (b) P. Rourke, Lutterworth	445
† (c) Harding & Son, Lutterworth	2,641

Maidenhead.—Extensions to the hospital for the Board of Governors. Mr. E. Stanley Hall, M.A., F.R.I.B.A., architect, 54, Bedford-square, London, W.C.1 :—

Higgs & Hill, Ltd.	£14,550
Chapman, Lowry & Puttick	14,666
Y. J. Lovell & Son	14,368
Prestige & Co., Ltd.	14,241
Bovis, Ltd.	14,195
Partlo Bros.	14,081
J. Long & Sons, Ltd.	13,964
Walter Lawrence & Son	13,931
Wm. Creed & Co., Ltd.	13,525
Wm. Norris & Co., Ltd.	13,444
Cox & Sons	13,078
*W. A. James & Sons, Station Works, Maidenhead	12,890

Maldon.—For (*a*) three pairs of dwellings in Kelvedon-road, Wickham Bishops; and (*b*) three pairs of houses in Goldhanger-road, Tolleshunt D'Arcy, for the R.D.C. Mr. W. Almond, surveyor, 6, Market Hill :—

(a) †F. Stammers, Junr., Southminster	£1,734 0 0
(b) †C. T. Glynn, Wickham Bishops	1,637 17 8

Manchester.—Conversion of buildings at Waterstreet depot into dining-room for the Cleansing Committee. Mr. H. Price, City Architect :—
Builder—*A. Tomkins, Manchester.
Steelwork—*E. Wood & Co., Ltd., Manchester.
Painting and plastering *F. Pilling, Ardwick.
Stonemason—*E. Butterworth & Sons, Radcliffe.

Manchester.—Boiler-house and stack, for Messrs. Henshaw's Institution for the Blind, Old Trafford. Messrs. Cruickshank & Seward, architects, 18, Booth-street :—
*T. Warrington, Ltd., Hyde.

Manchester.—Shopfront at the corner of Stretford-road and Medlock-street :—
*A. Edmonds & Co., Ltd., Constitution-hill, Birmingham.

Marple.—Installation of electric light in chapel and Sunday school, for Primitive Methodist Church :—
*Ridgeway & Sons, Romiley.

Marple.—40 houses in Stockport-road :—
*Bramwell & Taylor, Stockport.

Marple.—31 houses in Andrew-lane :—
*T. S. Marchant, High-lane, near Stockport.

Melbourn.—For (*a*) eight non-parlour type houses at Mildreth, and (*b*) six parlour-type houses at Shepreth, for the R.D.C. :—

(a)—*F. Hales & Sons, Sutton, Cambs	£2,560
(b)—*W. Wisbey & Sons, Haslingfield	2,340

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Middlesbrough.—Extensions to the Central Baths, for the T.C. :—
‡Gustavus Bailey, Ltd., Newcastle-upon-Tyne £38,207

Middlesbrough.—Conversion of Dacre-street police buildings into district slipper baths, for the T.C. :—
‡H. Walker, Middlesbrough £2,509

Morley.—Extensions at the Springfield Mills, for Messrs. Hudson, Sykes & Bousefield, Ltd. :—
*Harrison, Spenseley & Sons.

Neston and Parkgate.—Laying of 9in., 12in. and 15in. concrete tube sewers, concrete manholes, two underground pumping stations and underground pumping stations to existing sewage disposal works at Neston, for the U.D.C. Mr. H. B. Ward, consulting engineer, 26, North John-street, Liverpool :—
*T. Kenny & Son, Bury.

Newcastle-on-Tyne.—Extensions to St. Gabriel's Church, for Parochial Church Council. Messrs. Hicks & Charlewood, architects, Mosley-street :—
*J. & C. Lowry, Newcastle-on-Tyne.

Nottingham.—Shopfront at 4-7, South-parade :—
*A. Edmonds & Co., Ltd., Constitution-hill, Birmingham.

Oldham.—Branch premises in Moorcroft-street, Hollins Housing estate, for Oldham Industrial Co-operative Society, Foundry-street. Messrs. C. T. Taylor, Roberts, Bowman, A. & L.R.I.B.A., architects, 10, Clegg-street :—
*S. & J. Whitehead, Ltd., Oldham.

Poole.—Extensions at the Poole Grammar School, for the T.C. :—
*J. A. Parsons & Sons, Weymouth £11,600

Portsmouth.—Erection of Westover-road school, for the E.C. :—

J. Hunt, Ltd., Gosport	£26,600 0
H. E. Pitt, Ltd., Sunderland	21,029 0
Frank Bevis, Ltd.	20,960 0
J. Lay & Co. (Portsmouth), Ltd., Portsmouth	20,477 0
Howe & Bishop, Southsea	20,269 0
E. & A. Sprigings, Portsmouth	19,950 0
Green & Foley, Eastleigh	19,250 0
Sami. Salter (Portsmouth), Ltd.	19,199 0

Portsmouth.—For the Copnor, Portsmouth No. 2 Contract, relief sewage scheme, for the T.C. :—

Nott, Brodie & Co., Ltd.	£130,817 15 2
Geo. Bell & Sons, Ltd.	121,300 4 10
C. V. Buchan & Co., Ltd.	115,664 13 7
Frank Bevis, Ltd.	107,904 0 0
H. E. Pitt, Ltd., Sunderland	96,389 12 10

Preston.—New County Offices, for the Lancashire C.C. Mr. Stephen Wilkinson, F.R.I.B.A. County Architect, 16, Ribblesdale-place :—
Excavations and foundations—*T. Croft and Sons, Ltd., Preston.
Steelwork—*T. Blackburn and Son, Preston.
Fireproof floors—*Caxton Floors, Ltd., London.

St. Neots.—Four further non-parlour type houses at The Cranny, Offord Cluny, for the R.D.C. :—

Pettits, Godmanchester	£1,674
J. W. Smith, Buckden	1,500
Townsend Bros. & Watts, St. Neots	1,340
A. E. Gill, Offord Cluny	1,298
*Hardwicke & Burrows, Buckden	1,231

(Subject to M.H. approval.)

Scunthorpe.—Public baths, for the U.D.C. :—
Main Contract—*Hy. Ashton.
Asphalters—*Punstall's Rock Asphalte Co., Ltd.

Selsdon.—7 miles of 12 inch, 9 inch and 6 inch diameter stoneware pipe sewers, together with manholes, also construction of sewage disposal works, comprising sedimentation and storm water tanks, bacteria filters, humus tanks and sludge beds and erection of two ejector stations and other incidental works at Codsall and Wrottesley, for the R.D.C. Messrs. Wilcox & Raikes, engineers, Birmingham :—
*W. Withers, Bilston.

Shardlow.—1,200 yards of 6 inch pipe sewer, with manholes and other appurtenant works, also construction of electric pumping station at Stanley, Derbyshire, for the R.D.C. Messrs. Elliott & Brown, engineer, Burton-buildings, Parliament-street, Nottingham :—
*D. Roberts & Son, Ilkeston.

Sheffield.—Traction sub-station at (*a*) Greystones-road Laundry, (*b*) in Filey-street, for the T.C. Mr. Ernest Morgan, Chief Electrical Engineer, Commercial-street :—

(a) *W. G. Robson, Bamforth-street, Sheffield	£628
(b) *W. G. Robson, Bamforth-street, Sheffield	1,368

Sleaford.—Houses for the R.D.C. Mr. E. H. Sills, L.R.I.B.A., chartered architect to the Council :—

Great Hale 4—
*C. P. Unwin, Ecclesfield, Sheffield £1,262
Scredington 4—
*C. P. Unwin, Ecclesfield, Sheffield 1,292
Martin Fen 4—
*W. F. Baines & Son, North Hykeham, Lincoln 1,180
Swaton 4—
*W. F. Baines & Son, North Hykeham, Lincoln 1,190
Rowston 2—
*J. Hossack & Son, Ruskington, Sleaford 690
Thorpe Tilney 2—
*J. Hossack & Son, Ruskington, Sleaford 690

Sheffield.—60 non-parlour type houses on the Shiregreen Estate (Building Scheme No. 4), for the T.C. Mr. W. Geo. Davies, F.R.I.B.A., City Architect :—

*Melling Bros., Ltd., Balfour-road, Sheffield £36,447

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Springhead.—30 non-parlour type dwellings in Cooper-street and Woodbrook-road, for the U.D.C. Messrs. Winder & Taylor, architects, 61, Union-street, Oldham :—

*S. & J. Smethurst, Ltd., Oldham.

Stanley.—Sewage disposal works at South Stanley, for the U.D.C. :—

*G. E. Simpson & Co., Newcastle £32,000

Stow-on-the-Wold.—16 houses in Spring-gardens, for the U.D.C. Mr. S. Wickens, clerk. The Square :—

Alfred Groves & Sons, Ltd., Milton-under-Wychwood	£7,162
H. Oakley, Woodstock	6,840
Talbot Ellens, Stow-on-the-Wold	6,240
*Building and Public Works Construction Co., Ltd., Swindon	6,127
Bennett and Morgan, Dowend, near Bristol	6,053

Swaffham.—Additions and alterations to the Hamond's Grammar School, for the Governors. Mr. S. J. Wearing, F.R.I.B.A., architect, 3, Redwell-street, Norwich. Quantities by Mr. W. H. Bonsfield :—

†J. Cracknell, Ltd., Peterborough £5,346 16 2

Swansea.—Wrought iron railings and gates, for the C.B. :—

*Wm. Hayward & Sons, Wolverhampton £517 4 2

Wallasey.—Demolition of smallpox hospital in Leasowe-road, for the C.B. Borough Engineer :—

*C. Strickland, 102, Salusbury-road, Kilburn, N.W.6.

Whittington, near Stourbridge.—Two cottages on the sewage farm at Whittington, near Stourbridge, for the Upper Stour Valley Main Sewerage Board. Mr. G. Plant-Deeby, 13, Church-street, Stourbridge :—

*E. B. R. Tooby, Stourbridge.

Worksop.—Council school at Manton, with accommodation for 292 scholars, for the Notts E.C. Mr. L. Maggs, F.R.I.B.A., County Architect, Shire Hall, Nottingham :—

*Greenwoods (Mansfield), Ltd., Mansfield £11,177

Wrexham.—Twenty-one houses on the Holt-road site, for the T.C. :—

‡G. F. Sumner, Ashfield, Stansty, Wrexham £7,065

Wrexham.—Thirty-five houses on the Holt-road site, for the T.C. :—

‡G. F. Sumner, Ashfield, Stansty, Wrexham £11,827

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York.—For (a) extension of heating system at Knavesmire junior mixed school and (b) installation of heating system at Knavesmire County school, for the E.C. :—

*Central Heating Co., Ltd., Leeds (a) £135 (b) £402

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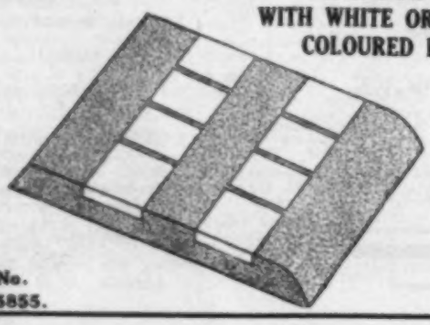
NOSING TILES NON-SLIPPING DURABLE ARTISTIC
WITH WHITE OR COLOURED INSETS

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IDEAL FOR ALL
TRICOSAL
SUPER WATERPROOFER
CEMENT WORK
COSTS LESS TO PROOF, makes the mixture more plastic & PERMANENTLY WATER & OIL PROOF & ACID RESISTING. Merely add ½ pint to each 2 gallons water.
Send for Particulars FROM A. A. BYRD & CO., 11, Queen Victoria St. LONDON, E.C.4